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THE INDO-EUROPEAN VOICELESS ASPIRATES

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[It is assumed in this paper that Indo-Hittite had four laryngeal consonants, namely: (1) a glottal stop of palatal color (ʾ), (2) a glottal stop of velar color (ʾ̣), (3) a voiceless velar spirant (*x*), and (4) a voiced velar spirant (*γ*), and that all of these consonants were lost in Primitive Indo-European. The paper attempts to prove that any one of the first three laryngeals converted an immediately preceding voiceless stop into the corresponding voiceless aspirate in Primitive Indo-European.[1]]

One of the least satisfactory chapters of Indo-European phonology has always been the one devoted to the voiceless aspirates. Not only is the evidence outside of Sanskrit distressingly scanty; it presents much apparent inconsistency for which no plausible explanation has been available. The correspondence between Skt. *véttha* and Gk. *οἶσθα* 'you know' has been thought to indicate an Indo-European 2d sg. perfect ending *-tha*, and Skt. *phalyam* 'flower', Gk. *φύλλον*, Lat. *folium* 'leaf' have seemed to come from an Indo-European word with initial *ph*; but if so, what of Skt. *pṛthús* beside Gk. *πλατύς* 'broad', Skt. *tíṣṭhāmi* 'I stand' beside Gk. *ἵστημι* 'I cause to stand', and in any case what of Skt. *khánati* 'he digs' beside Av., OP *kan-* (Av. 3d pl. pres. *kanəntī*) 'dig'?

Scholars have sought in vain for satisfactory answers to these and similar questions. It has been held that some or all of the voiceless aspirates of Indo-Iranian were independently developed,[2] and, on the other hand, that IE *th* yielded Gk. *τ* although *ph* and *kh* yielded *φ* and *χ* respectively.[3] The situation in Latin is so bewildering that some scholars have refrained from any opinion beyond the doctrine that after *s* the voiceless aspirates developed in the same way as the voiceless non-aspirates (e.g. Gk. *σχίζω* : Lat. *scindō*).[4]

A solution of the difficulty was proposed by Ferdinand de Saussure in a paper read before the Société de Linguistique de Paris in 1891, but it was based upon de Saussure's theory of lost consonants, and consequently it was doomed to rejection until Kurylowicz proved[5] from Hittite evidence that this doctrine was in general correct. The paper is preserved only in a brief report in the Bulletin (7.cxviii), as follows:

M. de Saussure apporte comme contribution à l'histoire des aspirées sourdes (*kh, čh, ṭh, th, ph*) du sanscrit une série d'exemples destinées à établir l'origine de certains *th* dans les racines et les suffixes. Ces *th* proviendraient de *t* indo-européen suivi du phonème *ə* régulièrement élidé devant voyelle; ainsi le masculin *pṛthús* "large" représenterait un indo-européen **pretə-ús*, devenu **pṛtʾús* après la chute de *e* radical atone; ici *th* = *tʾ* aurait une

[1] For my views about the laryngeals, cf. LANG. 16.81–7, 179–82, 273–84, and references. In addition to the symbols given above we shall have to use *H* as a cover symbol for ʾ, ʾ̣, or *x*, and *Ą* for ʾ̣ or *x*.

[2] Most recently by Kurylowicz, Études indo-européennes 46–72.

[3] A. Meillet, MSL 10.276–8; cf. Hjalmar Frisk, Göteborgs Högskolas Årsskrift 42.2.42 f.

[4] See Sommer, Hdb. d. lat. Laut- und Formenlehre[2] 173 f.; Leumann, Lat. Gramm. 138, and references.

[5] Symbolae Grammaticae in Honorem Ioannis Rozwadowski 1.95–104, Cracoviae (1927).

valeur étymologique; il aurait au contraire été étendu par pure analogie dans le féminin *pṛthi-vī́* = i.-e. **pṛtə-vī́*. Parmi beaucoup d'autres, la racine *sthā-* justifie son *th* de la même façon; le présent *tíṣṭhāmi* représente un radical indo-européen **sti-st'-é-*, **sti-st'-ó-*.

Apparently de Saussure ascribed the groups *p'*, *t'*, and *k'* to Primitive Indo-European and their fusion into *ph*, *th*, and *kh* respectively to Indo-Iranian alone. But if we assume that the process was complete in Primitive Indo-European, his theory provides a satisfactory explanation of such inconsistencies as those noted above. To substitute my terminology for de Saussure's, the aspirate *th* regularly resulted from such forms as (nom. masc.) IH *plétHus* > IE *pl̥thús*[6] > Skt. *pṛthús*, (gen. masc.) IH *pl̥tHéus* > IE *pl̥théus* > Skt. *pṛthós*, and (gen. fem. after a final short vowel[7]) IH *pl̥tHuwyá:s* > IE *pl̥thwiyā́s* > Skt. *pṛthwiyā́s*.

On the other hand, the non-aspirate *t* is to be expected in such forms as (gen. fem. after a final consonant or long vowel) IH *pʊltʊHwyá:s* > IE *pʊltəwyā́s* > Gk. Πλαταίᾱς,[8] (nom. fem.) IH *pl̥téHwiyʊ:* > IE *pl̥téwiyə* > Gk. *πλατεῖα*.

Evidently Sanskrit generalized the stem form with *th* and Greek the one with *t*. If Gk. *πλάθανον* 'dish in which bread and cakes are baked' goes with *πλατύς* rather than with *πλάττω* 'mould', we have a remnant of the inherited variant with *th* (IH *plétHʊno-* > IE *pléthʊno-* > Gk. *πλάθανον*).[9]

Similarly the aspirate of Skt. *sthā-* is normal in (thematic present) IH *sistʊ́ti* > IE *sisthéti*[10] > Skt. *tíṣṭhati* and Lat. *sistit*, (thematic noun) IH *-stʊ:os* > IE *-sthos* > Skt. *-sthas*, and IH *stʊ:ános* > IE *sthános* > Gk. *σθένος*[11] 'strength'.

The non-aspirate, however, is regular in (non-thematic present) IH *(si)stá:ti* >

[6] That the analogical vocalism and accent are as early as Primitive Indo-European is indicated by the agreement of Sanskrit and Greek.

[7] Probably Indo-Hittite had no feminine gender, but it had forms in *-a:* and *-ʊ:* that functioned as collectives and perhaps as abstracts, and some of these forms became Indo-European feminines.

Sievers' law (see Edgerton, LANG. 10.235–65) requires alternation of *-ʊla-* and *-la-* (Edgerton writes *-l̥la-* and *-la-*) after long syllables and short syllables respectively. It is here assumed that the alternation is as old as Indo-Hittite, but that it continued to function actively until Primitive Indo-European at least, so that, if the quantity of the preceding syllable changed, *-la-* was substituted for *-ʊla-* or vice versa. It is, however, assumed that IH *-ʊA-*, like the resultant IE *-ə-*, had the prosodic value of a short vowel.

There is ample proof for similar alternation of *-ʊl-* and *-l̥-* between non-syllabics (Gk. *ἁμαλδύνω* 'soften' : Lat. *mollis* 'soft' < IE *ml̥dwis*, Gk. *καρδία* : *κραδίη* 'heart' < IE *ḱʊrd-* : *ḱr̥d-*, etc.); it is probable that here too *ʊ* was normal after a long syllable, as is assumed in the reconstructions in the next paragraph.

[8] The place name Πλάταια for expected *Παλταια must be due to *πλατύς*, *πλατεῖα*, etc. Skt. *pṛthivī́* 'earth' shows *ṛ* for expected *ur* and *th* for expected *t* by the analogy of *pṛthús*, *pṛthvī́*, etc.

[9] But cf. Pollux 6.74: *ἔνθα δ' ἐπλάττοντο οἱ ἄρτοι, πλάθανον· ὁμοίως δι' οὗ ἐπλάττοντο.* The reconstruction with IH *ple-* rather than *pl̥-* is based upon the Greek accentuation and assumes later assimilation to the vocalism of *πλατύς*, etc.

[10] One may, of course, assume either phonologic *a* or analogic *e* in the penult.

[11] Gk. *σθένος* 'strength' has *ε* for expected *α* by the analogy of other neuter *s*-stems, such as *βέλος*, *γένος*, *δέος*, *μέλος*, *μένος*, *νέμος*, *πλέκος*, *ῥέος*, *στέγος*. Sommer, Griechische Lautstudien 65–8, supports the etymology in spite of the *θ* beside the *τ* of *ἵστημι*; his explanation of the aspirate is no longer needed. Bolling, AJP 21.315 f., connected the word with *ἔχω* and Skt. *sáhate* 'prevails' on the basis of a variant root with a labio-velar, for which he found evidence in Vedic *ásaghnos*, *sághat*, etc. To one who thinks that the IE palatals were derived from the pure velars this evidence is inadequate.

IE (*si*)*stắti* > Gk. *ἵστησι* and Lat. *stat*, (participle) IH *stʰ₂tós* > IE *stətós* > Gk. *στατός* and Lat. *status*.

Here again Sanskrit has generalized the aspirate and Greek the non-aspirate, except that *θ* was preserved in the isolated noun *σθένος* and its derivatives. Sanskrit seems generally to have preferred the aspirate where the two members of a pair alternated, and Greek generally chose *τ* rather than *θ*. There are, however, cases in which Sanskrit has generalized the non-aspirate at the expense of the aspirate, as in *spandate* 'quivers' beside Gk. *σφαδάζω* 'be restless, toss about, struggle'.

Since de Saussure's theory accounts for voiceless non-aspirates alternating with voiceless aspirates the chief difficulty of determining the regular development of the latter series in the historical languages is now removed. All who follow that theory may accept without hesitation the phonology of the voiceless aspirates which many scholars have in fact accepted[12] by merely disregarding the forms pointing to Indo-European non-aspirates.

I assume, then, the following development of the voiceless aspirates in Sanskrit, Avestan, Armenian, Slavic, and Greek.[13]

IE	Skt.	Av.	Arm.	Slav.	Gk.
ph	*ph*	*f*	*pʿ*	*p*	*φ*
th	*th*	*θ*	*tʿ*	*t*	*θ*
kh	*kh*	*x*	*x*	*x*	*χ*

The evidence for these phonetic laws has all been published and need not be rehearsed in detail.[14] As is well known, only Sanskrit sharply distinguishes the Indo-European voiceless aspirates from all other inherited sounds. Av. *f*, *θ*, and *x* may result from inherited *p*, *t*, and *k* before consonants. Arm. *tʿ* may represent IE *t* as well as *th*. In Slavic it is only *x* that gives valid evidence for an IE voiceless aspirate as against a non-aspirate, and *x* may represent IE *s* after original *i* or *u*. In Greek the Indo-European voiced aspirates give the same results as the voiceless aspirates.

It is generally recognized that the Indo-European voiceless aspirates, if preceded by *s*, lost their aspiration in Pre-Italic and then developed in the same way as the original voiceless non-aspirates (*scindō* : *σχίζω*, Skt. *chinátti* 'cut'; *sistō* : Skt. *tíṣṭhati* 'stand'; *spernō* 'remove, despise' : Skt. *sphuráti* 'make a sudden motion',[15] Gk. *σφυρόν* 'ankle').

[12] E. G. Kluge, KZ 26.88–92; Berneker, IF 9.363 f.; Pedersen, KZ 40.178; Persson, Beiträge 420 fn. 1; Brugmann, Grundr. 1².632 f., KVG 150–5, 158–61, 164–6, 168 f.

[13] In Celtic the inherited voiceless aspirates were not distinguished from the voiceless non-aspirates and in Germanic only in certain positions. I do not include the labiovelars and the palatals; for the former there is no certain evidence; for the latter the evidence is scanty, and in the *centum*-languages their development is, of course, the same as that of the velars.

[14] For Sanskrit and Avestan see most recently Kurylowicz, Études indo-européennes 1.46–55; Hjalmar Frisk, Göteborgs Högskolas Årsskrift 42.2.3–50. For Armenian see especially Meillet, BSL 36.109–20, Esquisse d'une grammaire comparée de l'armenien classique², 34–38. For Slavic see Meillet, Le slave commun² (revised by Vaillant) 22–6.

[15] It is generally assumed that the verb originally meant 'thrust away with the foot', but this meaning does not occur either in Latin or in Sanskrit. It is citable for Lith. *spiriù*.

Evidence for their development in Latin in other positions is scanty, but wherever we have reliable evidence it indicates a result identical with that of the corresponding voiced aspirate in the same position. We are therefore justified in assuming as a working hypothesis that the two series developed in the same way throughout. This does not necessarily involve the assumption sometimes made that they became identical in Primitive Italic; there may have been two series of spirants, one voiced and one voiceless, in Primitive Italic, and the medial voiced spirants (from voiced aspirates) may have retained their voicing constantly in Pre-Latin and Latin until historic times. Our direct knowledge is confined to the state of affairs in Latin itself, where the two series seem to be indistinguishable. I assume, then, that IE *kh* like *gh* became Latin *h* except after *n*, where it became *g*; that IE *th*, like *dh*, became Lat. *f* initial and *d* medial except before or after *r* and before *l*, where it gave *b*;[16] and that IE *ph*, like *bh*, became Lat. *f* initial and *b* medial. The available evidence is as follows:

Lat. *hāmus* 'fish-hook' beside Gk. χαμός· καμπύλος (Hesych.) must come from IE *khāmós* if cognate with OHG *hamo* 'fish-hook, fishing rod'. That the latter is an inherited word rather than a Latin loan word is indicated by its short vowel.[17]

The development of IE *kh* to Lat. *g* after *n* is shown by *congius* 'a liquid measure of approximately three quarts' beside Skt. *śaṅkhás* 'shell, conch' and Gk. κόγχος, κόγχη 'mussel, mussel-shell'. Scholars who doubt the development of IE *kh* to Lat. *g* after *n* have suggested that the Latin word may be a loan from the Greek; but there are several serious objections to that etymology. (1) There is no Gk. *κογχιος, and it is not probable that Lat. *modius*, a dry measure, would change a Lat. **congus* to *congius*. (2) Gk. κόγχος should give Lat. **concus* rather than **congus*. (3) While Gk. κόγχη, rarely κόγχος, sometimes means 'shell-full, a small quantity', neither word has a meaning at all similar to that of *congius*, whose Greek equivalent is χοῦς. Since the identity of the Sanskrit and the Greek words demonstrates the existence of IE *konkhos* 'shell', it is easy to assume also a derivative IE *konkhios*.

Lat. *unguis* 'nail' beside Skt. *nákhas* and NP *nāxun* 'nail' may illustrate the same development; but the Celtic and Balto-Slavic words (OIr. *ingen*, Welsh *ewin*, Lith. *nãgas*, Lett. *nags* 'nail', OCS *noga*, Russ. *nogá* 'foot') require IE *gh* or *g*. Germanic (OHG *nagal*, OE *nægel*) and Gk. ὄνυξ, ὄνυχος may contain IE *kh* or *gh*.

For Lat. *d* from IE *th* medial (except in the neighborhood of *r* or *l*) we have excellent evidence in *radius* 'spoke' beside *rota* 'wheel' and Skt. *ráthas*, Av. *raθō* 'chariot'. Lat. *rota* regularly represents IH *rotaḀ*[18] (IE *rotā*), while Skt.

[16] There is no sound evidence for Lat. *b* from *dh* after *u* (see H. Pedersen, Hittitisch und die anderen indo-europäischen Sprachen 50 f.), and neither is there for Lat. *b* from *th* in that position.

[17] So Sommer, Kritische Erläuterungen 64. Walde-Hofmann, 1.633, suggest that *ā* may have been shortened under the influence of OHG *hamo* 'fish-net'.

[18] For the Indo-Hittite predecessors of the Indo-European *ā*-stems, see Sturtevant, Lang. 14.239–47; Hittite evidence shows that the IH suffix *-x-* had factitive meaning and the suffix *-ḫ-* collective meaning. It is certain that the suffix *-x-* had other values (Lang. 16.283) and *-ḫ-* may have formed abstracts as well as collectives. For the present it seems

ráthas must represent IH *rotḀos* (IE *rothos*).[19] Lat. *radius* would then represent IH *rɤtḀiyos* (IE *rɤthyos*) 'pertaining to a wheel'; the same derivative has yielded Skt. *ráthyas* 'pertaining to a chariot'. This etymology is surely preferable to Walde's connection of Lat. *radius* with *rādīx* 'root'.

Another instance of Lat. *-d-* = Skt. *-th-* is presented by the suffix *-idus* beside Skt. *-áthas*. Their connection has not hitherto been recognized, partly because scholars are not accustomed to tracing Lat. *-d-* to IE *-th-*, and partly because the best known use of the Sanskrit suffix is to form action nouns (e.g. *caráthas* 'a going, mobility, activity').[20] Hjalmar Frisk,[21] however, has recently called attention to evidence from the lexicographers and from proper names that the suffix also formed nomina actionis, which might as well be called adjectives. One word cited by a lexicographer, namely *jīvathas* 'long lived', may be directly compared with Lat. *vīvidus* 'full of life, lively'. It may be surmised that the dissyllabic form of the suffix spread either in proethnic times or in Sanskrit and Latin separately; and, if the latter, one may identify Lat. *madidus* 'moist' with Gk. *μασθός* 'breast'; the latter would come directly from IH *mḀad* + *t:os*[22] > *madzd:os* > IE *matsthos*,[23] while the Latin word represents a re-formation IH *mḀadot:os* > IE *madothos* or IH *mḀadet:os* > IE *madethos*. Kurylowicz[24] is undoubtedly right in connecting the suffix *-(a)thas* (from IH *-t:os*) with the abstract suffix *-tā* (from IH *-ta:*). If so it is significant that in Attic Greek this very suffix has become productive to form agent nouns. At least we may compare the Rigveda personal name *Aśvathás*, to which Frisk (3, 6) ascribes a meaning such as '*ἱππεύς*', with the Greek synonym *ἱπποτης*. Even better, from the semantic point of view, is the equation of Av. **gavaθa-* 'cow-herd' (implied by *gavaiθya-* 'herd of cattle'; see Frisk 3, 6 f.) with Gk. *βούτης* 'cow-herd'.

The abstract-forming suffix *-tā* was, from Indo-European times, often extended

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that when other evidence is lacking *ā*-stem nouns in Indo-European should be assumed to have suffix *-x-* if they have factitive meaning and suffix *-'-* if they are collectives. I am also, in this paper, assuming that abstract *ā*-stems represent IH suffix *-'-*. We may then assume either IH *rotax* 'a causing to run' (for the meaning of the root *ret-* [rather than *reth-*], see Walde-Pokorny 2.236) or IH *rota'* 'a running'.

[19] Perhaps IH *rotḀos* was, to start with, the genitive of *rotaḀ* 'of running' = 'running easily', and this, being reinterpreted as the nominative of an *o*-stem, gave rise to a complete *o*-stem declension. In an article to appear in TAPA 71, I have called attention to a number of apparent parallels in Hittite and the Indo-European languages. The historically attested meanings of Lat. *rota* and Skt. *ráthas* would suggest that the IH gen. *rotḀos* meant 'of wheels, wheeled'; but the parallelism of *ῥοή* 'a flowing' : *ῥόος* 'stream' and a considerable number of similar pairs makes one incline rather to the abstract meaning given above. Lat. *radius* makes it probable that there was originally ablaut of the radical syllable in the noun IH *rotaḀ* (nom. **rótɤḀ* : **rɤtáḀ*?). Possibly the adjective in *-iyos* was not formed until a concrete meaning had been developed, and it may have arisen independently from IH *rotaḀ* 'wheel' and IH *rotḀos* 'chariot'.

[20] Whitney, Sanskrit Grammar §1136 and c.

[21] Göteborgs Högskolas Årsskrift 42.2.3–6 (1936).

[22] As will appear presently this suffix is to be connected with the abstract-forming suffix *-tā*, and I assume that the latter is from IH *-ta'*; see fn. 18. Hence I write *-t'os* rather than *-txos* or *-t'os*.

[23] With analogic restoration of the suffix *-t'os* > *-thos*. Hom. *μαστός* shows the IE *t* that would be regular in the related suffix IH *-ta'* > IE *-tā*.

[24] Études indo-européenes 1.48, but cf. Frisk, op.cit. 41.

to *-tāt-*. Consequently our identification of Lat. *-dus* with IE *-thos* beside *-tā* is confirmed by such pairs as *vīvidus* 'lively' : *βιότης* 'life, livelihood'; *lūcidus* 'shining, bright' : *λευκότης* 'whiteness'; *rūbidus* 'red' : *ἐρυθρότης* 'redness'; *solidus* 'solid' : *ὁλότης* 'wholeness'; *ācridus* 'sharp, acrid' : *ἀκρότης* 'highest point'; *gravidus* 'pregnant' : *βαρύτης* 'weight'.[24a] The two adjectives last named have also Latin abstract nouns beside them: *ācritās* and *gravitās*.

That IE *th* yielded Lat. *b* before *r* is indicated by *vibrāre* 'move rapidly, cause to tremble' beside Skt. *vyáthate* 'wavers, trembles' and especially *vithurás* 'staggering, tottering'. There is, to be sure, an alternative etymology[25] which connects Lat. *vibrāre* with Skt. *vepate, vepati* 'quivers, trembles', on the assumption of alternating *b* and *p* as root final. IE *b* is evidenced by Goth. *weipan* 'wreathe', OE *wīpian* 'wipe', etc., Lith. *vyburioju* 'wag', Lett. *viêbt* 'turn'; but these words are to be connected with ON *sueipa* 'throw', OE *swāpan* 'swing, sweep, rush', etc. We must clearly recognize three separate roots, whether or not these are ultimately to be combined on the basis of 'root-determinatives', namely: *wyeth-*, *weip-*, and *(s)weib-*. Lat. *vibrāre* cannot be connected with the second of these and its meaning fits rather better with the first than with the third. The determining consideration, however, is that Skt. *vithurás* seems to give us virtually the noun-stem from which the denominative verb *vibrāre* is derived; IE *withros* 'trembling' yielded **withrā* 'cause to tremble',[26] while Skt. *vithurás*, which violates Sievers' law, suggests contamination with a variant **weithʜros*.[27]

The development of IE *ph* initial into Lat. *f* is shown by *folium* beside Gk. *φύλλον* 'leaf', Skt. *phálam* 'fruit', *phalyam* 'flower', unless we prefer to connect the Greek and Latin words with Lat. *flōs*, OHG *bluomo* 'flower', etc.[28] Since Lat. *folium* and Skt. *phalyam* may be identified sound for sound, while Gk. *φύλλον* varies only in the first vowel (cf. *νύξ* : *nox*, *ὄνυξ* : Skt. *nákhas* 'nail'), I am inclined to favor the traditional etymology.

For the development of medial *ph* in Latin I can cite only Lat. *lambō* 'lick, lap' and *labium, labrum* 'lip' beside Gk. *λαφύσσω* 'devour' and Arm. *lap'em* 'I lick, lick up', which gives the expected representation of *ph* by *b*. It is customary, however, to connect Lat. *labium* and *labrum* with OE *lippa*, OHG *lefs*, *leffur* 'lip' on the basis of IE root-final *b*, and it seems easy to dispose of *lambō* in the same way. Walde-Hofmann s. vv. and Walde-Pokorny 2.384 separate *lambō* from the words for 'lip' and connect it with Gk. *λαφύσσω* and Arm. *lap'em*, but they connect it even more closely with OE *lapian* 'drink, lap' and MHG *leffen* 'lick, lap' on the assumption that the Latin and Germanic words have IE *b*, while the Greek and Armenian words have IE *ph*. The most one can say is

[24a] Kerns and Schwartz have suggested this connection on a different basis in a paper that has not yet been published.

[25] Walde s.v.; Walde-Pokorny 1.240 f.; Feist, Vergleichendes Wörterbuch der gotischen Sprache[3] s.v. *weipan*, and references.

[26] For denominative verbs of this type, cf. Sturtevant, LANG. 14.239–44.

[27] Of course such a root as *wyeth-* may, without more ado, be assumed to have a by-form *weith-*. Note, however, that IH *witHʜrós* obeys Sievers' law!

[28] So Walde-Hofmann s.v. *folium*; Walde-Pokorny 2.176 f.

that the three Latin words, *lambō*, *labium*, and *labrum*, contain either IE *ph* or *b*, but it is uncertain which.

What evidence we have, therefore, indicates that the Indo-European voiceless aspirates are represented in Latin in the same way as the voiced aspirates. We are now ready to collect the evidence in favor of the derivation of the aspirates from Indo-Hittite consonant groups consisting of a voiceless non-aspirate and a laryngeal.

If de Saussure's theory is correct, we should expect to find independent evidence of the presence of laryngeals in some at least of the morphemes concerned, and we should be able to reconstruct plausible forms justifying the aspirates and also the alternating non-aspirates. In fact, the ultimate verdict on this theory must depend chiefly upon our success in doing just this. If a new hypothesis accounts for more of the observed facts than any of its predecessors, science must accept it until one is found that works even better.

We have already discussed (p. 2) from this point of view Skt. *pṛthús* : Gk. *πλατύς*; it is necessary to add only that there is clear evidence for a laryngeal in Skt. *pṛthivī* : Gk. Πλάταια (IE *ə* < IH *ъH*); and one may see confirmation of this in Gk. *πλάτη* (Dor. *πλάτᾱ*) 'blade of an oar' and *ὠμοπλάτη* 'shoulder blade', if we assume PIH *pl̥téH*. Dor. *πλάτᾱ* would imply that the laryngeal was *ː* or *χ*, while Gk. *πλατεῖα*, etc., (with *ε*) implies that it was ', but the common *ā*-stems would readily explain the substitution of *ā* for *η*, and the type *ἡδύς* : *ἡδεῖα* would account for *πλατεῖα* instead of **πλαθαια* (< IH *pl̥tḀawyъː*).

Similarly we need to supplement the discussion of the root IH *staː-* > IE *stā-* (2) merely by calling attention to the clear evidence of a laryngeal involved in Skt. *sthitás* : Gk. *στατός*, Lat. *status* (IE *-ə-* < IH *-ъː-*) and in the long vowel of such forms as Skt. *ásthāt*, Gk. *ἔστη* 'he stood', and Lat. *stās* 'you stand'.

Another of the words already discussed, Skt. *ráthas*, Av. *raθō* 'chariot' (4–5), brings us evidence for a laryngeal, since Lat. *rota* 'wheel' comes from IH *rotaḀ*.

Kurylowicz[29] points out that the Sanskrit presents in *-nā-*, *mathnáti*, *grathnáti*, *śrathnīté* are clearly from dissyllabic bases with an *a*-colored laryngeal in the second syllable. For Kurylowicz the participles *mathitás*, *grathitás*, and *śr̥thitás* fully justify the aspirates; but, as long as we trace these to IH *mn̥tъḀtós*, *grъtъḀtós* (or *grn̥tъḀtós*), and *kr̥tъḀtós*, we must ascribe the aspirates to such forms as 3d sg. perf. IH *memontḀa* (cf. Skt. *mamátha*), pres. stem IH *mn̥tḀiyo/e-* (cf. Skt. pass. *mathyáte*), and noun-stems like IH *mn̥tḀéi-* (cf. RV *mathí* 'churning stick').

Similarly Kurylowicz cites such forms as *śnathitás*, *vyathitás*, and *-mithitás*, which are important for us also as demonstrating the presence of a laryngeal, but for which we should have to substitute such forms as subj. *śnáthat* (RV), *vithurás* (see above 6), or *mitháti* (IE *mitḀati*).

The pair *-mithitás* : *mitháti* 'alternates' is analogous to *tíṣṭhati* : *sthitás*, but in this case the aspirate is evidenced also by Av. *miθō* 'wrongly' beside Skt. *mithás* 'reciprocally'. That the laryngeal was either the second or the third is indicated by Lat. *mūtāre* 'exchange' (IH *moitaḀ-*) where *t* is, of course, regular.

Peculiarly striking is the distribution of forms in Av. *pantå*, gen. *paθō* 'way,

[29] Études indo-européennes 1.46.

path', where *t* occurs in the strong cases alone (IH *ponté'*) but the spirant *θ* in the weak cases (*paθō* < IH *pn̥t'ós*).[30] The conventional explanation of Iranian *t*, as a secondary development after *n*, was invented by Bartholomae[31] for this one word. In Sanskrit the aspirate has spread through the entire declension, while Greek and Latin have generalized the *t* (Gk. *πόντος* 'sea', *πάτος* 'path', Lat. *pōns*, *pontis* 'bridge').

We have seen (5–6) that the Indo-European adjective suffix *-othos*, *-ethos* is a thematization of the abstract-forming suffix *-(o)tā*, *-(e)tā*, which represents IH *-(o)ta:*, *-(e)ta:*. Here again we have independent evidence for the existence of the laryngeal. Kurylowicz (op.cit. 48) has posited such a connection between the Skt. suffix *-áthas*, *-átham*, in its use to form verbal nouns, with the abstract-forming suffix *-tā*; but since he did not include the adjective formations with the same suffix or the corresponding Latin adjectives in *-idus*, it was possible for Frisk[32] to object that there were no parallel formations in *-tā*. In view of the parallels cited above (5–6) that objection falls to the ground.

If the suffix IE *-thos* is to be connected with the abstract-forming suffix *-tā*, we need have no hesitation in tracing the variant of that suffix in *-thā* (Skt. *gā́thā*, Av. *gāθā*) to the same source. The *ā*-stems of both classes (IH *-ax* and *-a:*) must originally have been consonant stems and, like other consonant stems, have had ablaut of the final syllable of the stem (nom. *-áx*, *-á:*, gen. *-xós*, *-:ós*, dat. *-xái*, *-:ái*, etc.);[33] the aspirate of IE *-thā* comes from the oblique cases.

Kurylowicz (op.cit. 48) plausibly suggests that the Skt. adverbs in *-thā* (*ūrdhváthā* 'upwards', *viśváthā* 'in every way', *pūrváthā* 'formerly', *pratnáthā* 'as formerly', *ṛtúthā* 'regularly'—all Vedic) are historically instrumentals of abstracts in *-tā*. Of course many adverbs in *-thā* are based upon pronominal stems (*ítthā*, *táthā*, etc.), and it happens that only such pronominal derivatives are citable from Avestan, but Frisk's (op.cit. 40) statement that the pronominal usage is the earlier is nevertheless arbitrary. Frisk does not attempt to connect the suffix with anything in Indo-Iranian or elsewhere; I can find no objection to supposing that the formation originated in Primitive Indo-Iranian or earlier in words such as the Vedic adverbs cited by Kurylowicz and spread from them to pronominal stems by analogy (e.g. *víśvam* : *viśvátha* = *kám* : *káthā*). It is obvious that, if we adopt de Saussure's theory, an Indo-Iranian instrumental in *-thā* beside a stem in *-tā-* is parallel to an instrumental in *-trā* beside a stem in *-tar-*.

Equally persuasive is Kurylowicz' (op.cit. 49) contention that the superlatives in *-iṣṭhas* and the ordinals in *-thas* (*caturthás*, *pañcathás*, etc.) are thematized from substantives in IH *-ta:/t:-*[34] > IE *-tā/th-*. He points out that the compara-

[30] Kurylowicz, op.cit. 46 f., Prace filologiczne 17.90 f. IH ' rather than : or *x* is required by Gk. *πατέω*, *ἐπάτησα*, etc. < IH *pn̥té'-*; it is less probable that we should connect *ἀπάτη* 'deceit' and *ἀπατάω* 'deceive' (cf. Schrader, KZ 30.466; Prellwitz[2] 44) and assume an *a*-colored laryngeal.

[31] Grundr. der iranischen Philologie 1.1.8.

[32] Göteborgs Högskolas Årsskrift 42.2.41.

[33] Cf. above 000 and fn. 19. The declension without ablaut assumed in LANG. 14.241 to account for the Indo-European case forms may well have been secondary.

[34] He writes *-teH₂ tH₂-*.

tives have long been considered original substantives. We have merely to add that the old substantives in IH *-ista:* > IE *-istā* and IH *-ta:* > IE *-tā* survive as feminines in Gk. βελτίστη, τετάρτη, etc., and that they have induced the change from θ (*βελτισθος, etc.) to τ in the masculine and neuter. In Indo-Iranian the levelling has been in the opposite direction.

Kurylowicz also connects the Sanskrit suffix *-this* of *átithis* 'host' and *methís* 'post' with the extension of the suffix *-tā* in *-ye/o-* seen in Lith. *artójas*, OCS *ratajъ* 'ploughman' beside Lith. *ariù*, *árti*, OCS *orją*, *orati* 'plough'.

It is scarcely possible to separate Lat. *stupēre* 'be rigid, immovable; be stupid' from Gk. στυφελός, στυφλός 'hard, rough, sour, cruel' and στύπος 'stem, stump, block', whether or not we connect the other words grouped by Walde-Pokorny (2.618 f.) under the root *(s)teup-*. Lat. *stupēre* comes regularly from IH *stupé'-* and Gk. στυφελός from IH *stup'ьlós* (with analogical substitution of ε for α as in θετός).

Skt. *śā́kā* 'branch', Arm. *çax* 'bough', and OCS *soxa* 'stick' point to IE *ḱā/əkhā*, and that implies IH nom. *kъḀkáḀ*, *káḀkъḀ*, gen. *kъḀkḀós*, etc.[35]

Kurylowicz (op.cit. 49 f.) explains the aspirate of Skt. *khā́dati* 'bites, chews' as due to the laryngeal that is evidenced by the alternation of radical *ā* with the *i* of Skt. *khidáti* 'tears'. The antiquity of the aspirate is shown by NP *xāyīdan* 'eat, chew' and Arm. *xacanem* 'I bite, pierce', and the latter word indicates an *a*-colored laryngeal. We must assume two full grade forms (IH *káḀd-* > IE *ḱā́d-* and IH *kḀád-* > IE *khád-*). The Sanskrit word must then be a contamination of the two; while Arm. *xacanem* may come from IH *kḀád-s-*.

Meillet[36] suggests a connection of Gk. πήγνυμι (fut. πᾰ́ξω in Pindar) 'fasten' with Arm. *p'akem* 'close' 'en supposant i.-e. *ph* à côté de *p*.' The Greek word represents IH *páḀg-* and the Armenian IH *pḀág-*.

Two long-standing riddles connected with the Indo-European root *steg-* 'cover' are both disposed of by de Saussure's hypothesis. The aspirate of Skt. *sthágati* comes from IH *st'ég-*, and the long vowel of Lat. *tēctus* comes from IH *(s)té'g-*. It has long been clear that 'Lachmann's Law', according to which Latin participles from roots ending in voiced mutes lengthen the radical vowel, is not a phonetic law.[37] It now appears that *tēctus* is one of the words in which the long vowel was inherited. No doubt others were *pāctus* (cf. the preceding paragraph), *lēctus* (cf. *lēx*, *lēgāre*, Gk. λώγη· συναγωγὴ σίτου, ἐλώγη· ἔλεγεν—Hesych.), and perhaps *āctus* (IH—reduplicated— *Ḁa-Ḁg-tos* : pres. *Ḁágeti*? cf. λοχᾱγός from IH *-a-Ḁagos* < *-e-Ḁagos*).

Skt. *-thās*, 2d sg. secondary ending of the medio-passive, whether or not it is to be connected with Gk. *-θης* of the aorist passive, contains a long vowel that suggests the presence of a laryngeal (IH *-te's* : *-t'es*?); but in the absence of citable forms that would bring the laryngeal into immediate contact with the *t* no evidence can be drawn from this form.

In a number of words initial aspirate and radical vowel *a* reinforce each other's evidence. Skt. *kharas* 'hard, sharp', NP *xār*, *xārā* 'rock, thorn', are plausibly

[35] Cf. fn. 19 and fn. 33.

[36] BSL 36.110.

[37] Sommer, Hdb. d. lat. Laut- und Formenlehre[2] 122.

connected with Gk. *κάρχαρος* 'jagged, saw-like; rough, harsh'. Together they imply IH *kĄaros*. Similarly Skt. *khoras* 'lame', Gk. *σκαῦρος* 'with deviating hoof', Lat. *scaurus* 'with swollen ankles' imply IH (*s*)*kĄauros*. Skt. *khudáti* (RV), an obscene word meaning something like '(penem) inserere', may be connected with Lat. *cauda* 'male member, tail'[38] on the basis of IH *káĄud-* : *kĄud-*. If we connect also Gk. *σκύζα* 'lust', we may instead see in Lat. *cauda* a contamination of Ital. *scaudā* (< IH *skĄaudaĄ*) and *xaudā* (< IH *kĄaudaĄ*).

Just so the *a*-vocalism of the 2d sg. ending of the perfect (Skt. *-tha*, Gk. *-θα*) is due to the same laryngeal that caused the aspiration. Since this laryngeal does not appear in Hittite (present *-tti*, pret. *-tta*) we should assume that it was IH *ˀ* rather than *x*, although there is no clear proof that *x* was not lost after *t* in Hittite.[39]

Skt. *chinátti* 'cuts off, pierces', Gk. *σχίζω* 'split', Lat. *scindō* 'split', OE *scītan* 'void excrement' all point to IE *skhid-*. Skt. *khidyáte* 'suffers pain', *khédā*, name of a weapon with which Indra assails the clouds, and *khedas* 'fatigue, debility' can scarcely be separated from Lat. *caedō* 'cut, strike'. The two groups can be connected with each other and, more remotely, with other words that lack the final *d* (Skt. *chyáti* 'cuts up', part. *chātas*, causative *chāyayati*, Lat. *dēscīscō* 'withdraw, desert', etc.[40]) on the basis of IH (*s*)*ké'y-* > IE (*s*)*kḗi-*, IH (*s*)*kъ'i-* > IE (*s*)*kəi-* or (*s*)*kī-*, and IH (*s*)*k'i-* > IE (*s*)*khi-*. If we limit our attention to the words with final *d*, we may instead set up IH (*s*)*kĄáid-* > IE (*s*)*kháid-* and IH (*s*)*kĄid-* > IE (*s*)*khid-*; in which case Lat. *caedo* must owe its *c* to an unattested Italic variant with initial *s*. On the whole the other reconstruction seems more probable.

Skt. *kumbhás* 'pot' is shown by Av. *xumba-* 'pot' to come from Indo-Iran. *khumbhás* by dissimilation of aspirates; it cannot be cognate with Gk. *κύμβος* 'cup'.[41] On the other hand, Gk. *κυφός* 'bent, hunch-backed' and *κῦφος* 'hunch, hump' may be connected with the Sanskrit and Avestan words on the basis of IH *kHu-m-bh-* > IE *khumbh-* : IH *kъHubh-* > IE *kəubh-* or *kūbh-*.

We have observed, then, two reasons for accepting de Saussure's theory that the voiceless aspirates resulted from voiceless non-aspirates plus a laryngeal. In the first place it accounts for the observed alternation of non-aspirate with aspirate, as in Av. nom. *pantå*, gen. *paθō* 'way, path' (IH *ponte'* : *pn̥t'os*). This explanation is available even in case there is no independent evidence for the ablaut variation that has to be assumed. Skt. *khánati* 'digs' implies IH *kHéneti* and the equivalent Av., OP *kan-* implies Indo-Hittite forms with a vowel before the laryngeal. There are several possibilities: initially in the sentence or after a final consonant IH *kъHéneti* > *kəéneti* > IE *kəneti*, whence Av. 3d pl. *kanənti*; a sixth-class present IH *kъHnéti* > IE *kənéti* should give Avestan radical

[38] Walde-Hofmann are inclined to accept the unsatisfactory connection with *caudex*, *codex* 'stick, block of wood'.

[39] Hitt. *spandḫḫi* (*ši-pa-an-ta-aḫ-ḫi*, *ši-pa-an-daḫ-ḫi*, *išpandaḫḫe* beside 3d sg. *ši-pa-an-ti*) may have *ḫḫ* restored by analogy with *daḫḫi* 'I take', *teḫḫi* 'I place', etc. It is also possible to read *spandaḫḫi* and assume IH *spondъxa*.

[40] See Walde-Pokorny 2.541 f.

[41] The latter does not occur before the second century B.C.; it may be an Indic loan word.

i, but such a form may have led to loss of the aspiration in the present cognate with Skt. *khánati*.[42]

Peculiarly gratifying is the fact that de Saussure's explanation of a troublesome anomaly has enabled us to discover several new etymologies, notably the connection of Lat. *radius* with *rota* and of the Latin suffix *-idus* with Skt. *-athas*.

Our second and more important argument for the theory is the fact that in very many instances independent evidence indicates the presence of a laryngeal in the syllable begun by a voiceless aspirate. We have found such evidence in so many words that we cannot ascribe the phenomenon to mere chance.

A third argument may be mentioned. If the Indo-European voiceless aspirates represent Indo-Hittite consonant groups, we have an explanation of their rarity in comparison with the other orders of Indo-European mutes.[43] Conversely it is improbable that the voiced aspirates are similarly to be traced entirely to Indo-Hittite consonant groups, although there would be no difficulty in tracing a part of them to such an origin.

A corollary of certain of the etymologies established in this article is that the second laryngeal (*ɔ*) was a voiceless sound.[44] We have found evidence that *t* + *ɔ* yielded IE *th* in IE *stho-* (Skt. *tiṣṭhati*) beside *stā-* (2–3), in the noun-suffix IE *-thos* beside *-tā* (5–6), and in the 2d sg. perf. ending IE *-tha* (10).

[42] One must add that in this word there is some independent evidence for the laryngeal in the long vowel of Skt. *khā́* 'well', *khātás* 'dug', etc. The last named form may represent IH *kʰəHn̥tós*.

[43] Holger Pedersen, La cinquième déclinaison latine 48 fn. 1.

[44] Otherwise Kerns and Schwartz, JAOS 60.182–5.

THE INDO-EUROPEAN SEMIVOWELS IN ALBANIAN

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[IE pure N-grades of the *l̥* and *r̥* types yield Alb. *ul/lu* and *ur/ru*, except where *ə* appears to have been inserted (perhaps because the form in the N-grade was difficult to pronounce). The extended grades arising in this way fall together with original R-grades, which on becoming stressed or restressed yield Albanian combinations with the vowel *a*. IE N-grades of the *m̥* and *n̥* types are indistinguishable from extended grades and R-grades; they yield *âm* and *ân* in the Geg dialect, *ëm* and *ën* in Tosk. The article presents the evidence for these developments in a large number of etymologies, many of them new.]

The development of the IE semivowels in Albanian is complicated by the fact that reduction and vanishing continued till a fairly late period. Early Slavic loan words show reduction (*gërmadhë* 'heap, ruin', cf. Rum. *grămadă*), but this tendency is not present in later borrowings from Slavic (*gosti* 'feast', *probotim* 'sworn brotherhood' for **pobratim*). The process of reduction did not extend to Turkish loan words (*kapak* 'lid', not **këpak*; *konák* 'large house', recorded by Buzuk as early as 1554, not **kënak*). This means that the reduction of unstressed vowels to [ə] (written *ë*) continued for some time after the Slav invasions, but had ceased before 1450. The process is parallel to that of Rumanian, but in Albanian it has gone farther; compare *rroj*, [N] *rrnoj* 'I live', from a Balkan-Latin type **remanā-* (Lat. *remanē*), with Rumanian *rămâne*.

The present article deals with various aspects of the problem according to the following propositions:

1a. IE *l̥*, *r̥*, whether long or short, yield Alb. *ul* or *lu*, *ur* or *ru*.

1b. Here belong also N-grade words descended from verbal types with the vowel or semivowel *u/u̯* present in full grades, i.e. in the series *eu* : *ou* : *u* and *u̯e* : *u̯o* : *u*.

1c. When *i* followed originally, the base vowel is umlauted to *y* (= *ü*). Words in the first group are mainly isolated non-verbal types, i.e. without full grades.

2. IE *əl*, *ər*, *ət*, etc., representing the R-grade of verbal (*e/o*) types, yield Alb. *al*, *ar*, *at*, etc. Here belong also a number of isolated or non-verbal words with inserted *ə*, which were apparently difficult to pronounce as N-grades. In most IE languages R- and N-grades are indistinguishable, but Celtic and Albanian preserve the distinction.

3a. IE *m̥*, *n̥* and *əm*, *ən*, N-grade and R-grade respectively, both yield Alb. *âm*, *ân* (Tosk dialect *ëm*, *ën*).

3b. When *i* followed originally, the base vowel is umlauted to *ê* (Tosk *ë*).

4. Some Albanian words (prepositions, prefixes, and other words with weak sentence stress) are still vowelless; other words of this kind have become so. Such words are written either without a vowel or with 'euphonic' *ë*.

5. Some Albanian words, including some Latin and Greek loan words, originally had unstressed base vowels. These vowels became stressed or restressed

when stress stabilization took place, and subsequently developed in the same way as R-grades (see 2 and 3 above).

In the etymologies that follow, Albanian words are cited in the form of the Geg dialect, unless the Tosk dialect variants are indicated.[1]

1a. Original *l̥*, *r̥*

bluj, *mbluj* 'I grind, digest'. Type **mlḭō*: OHG *muillen* (**muljan*), Gk. ἀλέω, Arm. *aɣam* 'I grind'. Sl. *melǫ* is E-grade; W *malaf* is R-grade (or extended grade); W *blawd*, Lith. *mìltai* 'flour' are from a ppl. type **mḭ̀lt-* (with long *l̥̀*).

brushë f. 'brush'. Type **bhr̥sḭā*: W *brych* 'rough covering'; cf. further OHG *burst*, Skr. *bhr̥šṭi-* 'point, edge'. Probably not related to φάσκος (cf. E. Boisacq, Dict. étym. de la langue grec[3]; Heidelberg and Paris, 1938), which = Alb. *bashkë* 'fleece', *bashk* 'together'.

burr m. 'man'. Type **bhr̥nḭo-*: cf. the Illyrian man's name *Burniō*, *-n-* (Krahe).

drudh, *drrudh* 'I crush, pound'. Type **dhr̥ĝh*: Lith. *diržu* 'I get compressed', OSl. *drъžati*. Cf. Walde (Lat. etym. Wb.[2]; Heidelberg, 1910; 3d ed. 1938) and Meillet (Ernout and Meillet, Dict. étym. de la langue latine[2]; Paris, 1939) s.v. *fortis*.

frûth, gen. sg. *frûdhi* m. 'measles'. Type **sphr̥ĝis*, a prolific IE root. Note that palatal *ĝ* absorbs the umlauting power of the ending *-is*. Cf. Skr. *sphūrjati* 'crackles, crumbles' and Lith. *spirgáu* 'I fry' (note the non-palatal *g*). W *ffreg* 'chatter' is E-grade; Eng. *spark* is O-grade. Lengthened grades are seen in OHG *spruojan* 'shower sparks' and *sprācha* 'speech'.

grun, Tosk *grur* m. 'wheat'. Type **ĝr̥nóm*: Lat. *grānum*, W *grawn*, Skr. *jīrṇáḥ*, Srb. *zr̂no*. Note that IE *ĝ* becomes *g* before *r*; see *krye* below.

grusht m. 'fist'. From a type **g(h)r̥sti-*. This may be an early Slavic borrowing, especially as Sl. *grъstь* 'handful' is not found in other IE languages. If borrowed at a later period, the result would have been **gërst* (cf. Alb. *kërmë* 'carcase', *stërk* and *shtërk* 'stork', showing that in late borrowings Slavic vocalic *r* > Alb. *ër*; note also *gostí* 'feast', where Slavic internal *-st-* remains in Albanian). Alb. *mushk* 'mule' seems also to be an early Slavic borrowing (OSl. *mъskъ*); if so, the derivation of *grusht* from Old Slavonic is strengthened.

gur m. 'stone'. Cf. Illyr. *Tra-gurium*, a town-name (Krahe); for *tra-* see under *tër-* below. Skr. *girí̀ḥ* 'mountain', Lith. *girià* 'wood' are in the same grade. W *bry* 'high, up' is a doubtful relation. For the semantics note that Blg. *gorà*

[1] In order to avoid the scanty documentation which characterizes most attempts at explaining Albanian phonology, the writer spent two years (1929–31) in various parts of Albania, solely with the purpose of obtaining fresh linguistic material at first hand. The material is gradually being published in the form of a Historical Albanian and English Dictionary (Brno, 1938–), now unfortunately held up by the war. After removing some thousands of Greek and Turkish loan words admitted by Gustav Meyer into his Etymologisches Wörterbuch der albanesischen Sprache (Strassburg, 1891), it is expected that there will be a residue of some 66,000 entries, many of them showing clear IE affinities.

In the present article, Meyer's dictionary and the two works by Hans Krahe—Die alten balkanillyrischen geographischen Namen (Heidelberg, 1925) and Lexikon altillyrischer Personennamen (Heidelberg, 1929)—are cited simply by the author's name. References will be found s.v. in the appropriate work.

and Gipsy *veš* mean both 'wood' and 'mountain'. The same is true of Span. *monte*.

hullí f. 'furrow, groove'. Type **skl̥u̯ís*: Lith. *skil̃vis* 'stomach' (lit. 'hollow') apparently = Gk. σκαλίς 'hoe, mattock'. Cf. σκάλλω 'I hoe'.

-kul vb. '*I strike'; only in compounds: *përkul* 'I bend', *ngul* 'I drive in, hammer in', *çkul, shkul* 'I pull out, uproot'. Lith. *kuliù* 'I strike' is R-grade; OSl. *klati*, Lith. *kálti* 'strike' are O-grade.

kulp m. 'ivy'. Type **qᵘl̥p*, N-grade of **qᵘelp/qᵘolp*: Lith. *kìlpa* 'noose', *kilpinė* 'bow' are in the same grade; OHG *hwelban* 'to arch, vault' is E-grade. The word *kulpën*, Tosk *kulpër* 'clematis' would seem to be related, but the existence of the variants *kurpël, kurpúl* would suggest a non-IE borrowing. Gk. κόλπος is dissimilated from *πόλπος; Lat. *culpa* 'sin' (for the semantics cf. Swed. *vrång* 'twisted, inside-out' : E *wrong*; Czech *křivý* 'bent' : *křivda* 'wrong'; Lat. *tortus* 'twisted' : Fr. *tort* 'wrong') could be either O-grade or N-grade.

kurth, kurthë m. and f. 'trap'; probably for **kurtth* 'little hurdle' from an Alb. type **kurt* (= *crātis*, Goth. *haúrds*) + *-th*, dim. suffix. The original form seems to have been displaced by *kurt* 'court' from LLat. For the loss of the stop before *-th* cf. *ethe* 'fever', if this is for **edthe* 'little fires'.

lugë f. 'spoon'; *luginë* f. 'valley'; *lugth* m. 'stomach' (lit. 'little hollow'). Cf. Illyr. *Lúgeon* (ἕλος Λούγεον), name of a marsh (Krahe). This is an obscure word. Old Slavonic has *lъžа* 'canal' beside *lъžica* 'spoon'. Gaelic *liagh* 'spoon', Ir. *liaghan* 'trowel', and W *llwy* 'spoon' seem to present the same problem as *llwyf* : *ulmus* (Gaul. *lemo-, limo-* 'elm', Ir. *liamhán* 'elm', Celtic type **lĕimos*). Lat. *ligula* 'spoon' is referred by Walde to the root **liĝ* 'lick'.

mung, Tosk *murg* m. 'monk': a difficult word. Contrast the form of this early Greek borrowing with the later Albanian borrowing *monastír* 'monastery'. The prototype of Alb. *mung* appears to be **mnəkho-*. This is an interesting word if the vowel is really derived from *ə* and not from unstressed *o* in the Greek original μοναχός. In many early Greek borrowings *o* becomes *u* (*kun* 'cone', *skumbrí* 'mackerel', *punë* 'work', *kuq* 'red', etc.). The word μοναχός seems to have been widely borrowed at an early period, as is shown by Ir. *manach*, W *mynach* (type **mnəxo-*). Czech *mnich* is borrowed from Gmc. **munikas*, according to Holub, Stručný slovník etymol. jaz. českého (Prague, 1933).

murg adj. 'grey, dark'. It is tempting to compare Illyr. *Morcos*, a man's name (Krahe), Messap. *morcos*, beside *Murciō, -n-*, a woman's name. Final *-rk*, however, produces Alb. *-rk*, not *-rg* (see *bark* below). Cf. rather the Rumanian proper name *Murgoci*. Icel. *myrkr* (**murkis*) is insufficient evidence to establish R-grade; cf., however, Ir. *mairg* 'sadness', and see Boisacq s.v. μαραίνω.

trû n. 'brain'. Probably from a type *entṛno-* 'internus'; cf. OSl. *vъnątrьnъ*.

turp m. 'shame'. Hardly a borrowing from Latin, as suggested by Meyer; rather a cognate of Lat. *turpis* 'vile'. Original meaning was probably 'suffering', hence 'miserable'; cf. OSl. *trъpěti*, Goth. *þaúrban*.

-un, -mun, Tosk *-ur*, ppl. and inf. ending, as in *dáshun*, Tosk *dáshur* 'beloved, loved'. Cf. Illyr. *Dasmenos, Dazomenos* (*z* is a symbol for *tį, sį*, and probably *ŝ*), a man's name (Krahe); cf. further Messap. *voltiį̄omnos* : Alb. *vótun*, Tosk *vájtur* 'come, gone', and Lat. *alumnus* 'reared', *auctumnus* lit. 'increased, bulging',

Vertumnus, Volumnus, etc. The ending seems to be in N-grade relationship to Gk. *-μένος*. Reduction from *-men* to *-mən* in Albanian is out of the question, since this would have produced *-mën* in both dialects. Cf. however Ir. *lingeamhain* from **lingəməni* 'the act of leaping', *lingim* 'I leap'.

uní, Tosk *urí* f. 'hunger'; *unë*, Tosk *urë* f. 'firebrand'; *unuer*, Tosk *uruar* m. 'tinder'; *ûth*, Tosk *urth* m. 'heartburn, smut in wheat'. From types **ugnís*, **ugnā*, **ugnāri̯o-*, **úgnəki-* respectively. It seems that IE had two variants for 'fire', a type **ugnís* and a type **əgnís*; the former produced the Lithuanian and the Albanian forms, the latter those of Sanskrit, Slavic, and Latin. Czech has a further variant **ūgnis* in *výheň* 'furnace'.

urth, gen. sg. *urdhi* m. 'ivy'. This is in the same grade as Skr. *vṝj-* 'twist, turn', Czech *vrzati* 'creak', Ir. *frigh* 'worm'. Lith. *veržiù* 'I squeeze' is E-grade, Gael. *fraigh* 'wattle' is R-grade. See further Walde, Meillet s.v. *vergō*, Boisacq s.v. ἔργω.

1b. Albanian *u* from N-grade or radical *u*

brumë m. 'leaven', *mbruj* 'I knead'. Type **bhṝeumo-* or **bhṝumo-*; the verb is from **embhṝeumi̯ō* or **embhṝumiō*. OE *beorm* 'barm' and Lat. *ferm-entum* are E-grade (**bhereu-*); W *burym* 'yeast' (for **bryum*) is from a type **bhṝumo-*.

drû, gen. sg. *drûni*, Tosk gen. sg. *druri* m. 'wood, tree' beside *dru*, gen. sg. *druje* f. 'wood'. Cf. the Illyrian place-name *An-darvia, An-derva, An-darava* (Krahe). *An-* is a common Illyrian prefix; cf. *An-dautonia* beside *Dautonia*. The masc. form of the Albanian word is from a type **dṝno-*, the fem. form from **drṵi̯ā*. Sl. *drěvo*, Gaul. *dervo-* (= W *derw* 'oak'), and Goth. *triu* 'tree' are E-grade; Lith. and Lett. *darva* 'tar' is O-grade; Gk. δρῦς, gen. sg. δρυός, and Icel. *tyrr* 'pine' are N-grade.

gjumë m. 'sleep'. As *gj-* from *s-* can only stand in unstressed syllables, the prototype of this word must be **supnó-*. For loss of *-p-* cf. *mbrâmë* below. Meyer regards *udhë* 'road' as N-grade of *vjedh* 'I steal' (**u̯eĝh-*).

ulk, ujk m. 'wolf'. Cf. Illyrian names for Dulcigno: *Ulkinio-, Olkinio-*, and the man's name *Olkías* (Krahe). Type **u̯l̥qu̯ós*, N-grade of type **u̯elqu̯-* 'drag, pull'.

1c. Original *l̥, r̥* in Albanian words with base vowel umlauted by following unstressed *i*

brymë, Tosk *brimë* f. 'hole'. Type **bhṝmi-*, cf. Arm. *prem* 'I bore'. For further possible cognates see Boisacq s.v. φάρος.

fryj 'I blow', *frymë* f. 'breath'. Verbal type **spṝi̯ō*, Gk. σπαίρω. Cf. Arm. *sprrem* 'I scatter'. W *ffraw* 'bustle' is from **spr̥̄-* (note the long *r̥̄*), while W *ffrysiaf* 'I hasten' is from a type **spṝstḭəmi*. For *frymë* cf. Illyr. *Frombō, -n-*, name of a goddess (Krahe), and see Boisacq s.v. σπαρνός.

gryej, grryej 'I dig, rake'. This = Gk. χραίνω (< **ghṝni̯ō*) 'I graze, scratch', q.v. in Boisacq.

grykë f. 'throat, gorge'. Cf. Illyr. *Curika*, name of a town (Krahe). This is from a type **gṝqu̯i-*, but no IE language gives an exact equivalent of the word.

The nearest is Blg. *grъklánъ* 'windpipe'; Lithuanian has *gurklỹs* 'crop' beside *gerklẽ* 'throat'. OSl. *grъlo*, Czech *hrdlo* may be for **grkdlo*, while Czech *krk* 'neck' may be assimilated from **grk*.

grymë 'I damn, exile'. Type **gu̯hṛmi̯ō*. Cf. OSl. *grъměti*; a prolific IE root.

grynjtë 'of wheat, wheaten'. Type **ĝṝnito-*, from *grun* above.

krymb, Tosk *krimp*, gen. sg. *krimbi* 'worm', beside *karrémë* f. (Tosk only) 'worm'. Type **kṛmis* = Lith. *kirmis*, W *pryf*, Ir. *cruimh*, Arm. *garmir*. The existence of the doublet *karrémë* in Tosk is not easy to account for, but would presuppose a form whose first element was *kər-* (see below). Old Slavonic has *črъvь* beside *črъmьnъ* 'crimson'. For the existence of final *m* beside *v* cf. OSl. *prъvъ* 'first', Skr. *pūrva*.

krye n. 'head', *kryej* 'I finish'. For the first word cf. Illyr. *Carvius*, *Carvanius*, men's names (Krahe), for **cravios*. (Cf. *Auas*, a river, and Alb. *ujë* 'water'.) Cf. further Gk. κρᾶνίον 'skull', and κραίνω 'I finish' = Alb. *kryej* from **k̂ṛn̥i̯ō*, lit. 'bring to a head'. W *carn* 'hoof', which is R-grade, may be related. For *k̂* > *k* before *r* cf. *grun* above, and note preservation of *k* before *l* in Alb. *kluej*, *quej* 'I call' from **kláujō*, restressed from **k̂lou̯i̯ō*. Cf. Illyr. *-klevatos*.

lulushtrydhe f. (*jā*-stem) 'strawberry'. The first element is Alb. *lule* 'flower', *lulu-* in several compounds, which may be from a type **le̯u̯íli̯o-* or **le̯u̯íliā*, as in Gk. λείριον, Lat. *līlium*, Bask *lili* 'flower' (possibly a 'Mediterranean' word). The second element may be from a type **sṝĝi̯ā*, Lat. *frāgum*; but cf. Lith. *brižė* 'strawberry' from **bhṛĝi̯ā*.

ndryj 'I lock'. Type **endṛn̥i̯ō*, apparently a compound of *drû*, q.v.

2. Extended N-grades and R-grades

arí, gen. sg. *aríu* m. 'bear'; *arushë* f. 'she-bear'; *arushâ*, gen. sg. *arushâni* 'young bear'. The last form corresponds to Illyr. *Arausion-*, *Arauzóna* (note the equivalence of *-si-* and *-z-*). Alb. *arí* is apparently from a type **ərksūs*, Alb. *arushë* from a type **ərksúsi̯ā*. Gk. ἄρκτος is from **ṛksto-*; Skr. *ṛ́kṣa* and Lat. *ursa* are from **ṛksā*; Arm. *arč* and W *arth* are from **ərk(s)to-*. Gaulish has *arto-* for earlier **arxto-*. This word may be non-IE, in view of Bask *artz* 'bear'; or the latter may be borrowed from Celtic.

âsht, Tosk *ësht* 3d sg. 'is'. This was reduced at an early period from *estí* to *əstí*; restressing of the vowel resulted in *a/â* (umlaut *ê*), Tosk *ë*. Final *i* disappeared without causing palatalization or umlaut. Stress stabilization occurred after many Latin loan words had passed into Albanian.

bar, pl. *bárna* 'herb, grass'. Cf. the Illyrian place name *Barium*. Lat. *far(r)* 'grits', W *bara* 'bread', and OSl. *bъrъ* are R-grade; Gk. φέρβω and W *berw* 'cress', also Lat. *herba* (if it is a dialect form for **ferva*), are E-grade; Gmc. **baris* (OE *bere*) 'barley' is O-grade.

bardhë adj. 'white'. Cf. Illyr. *Bardus*, *Bárdylis*, men's names, and the Hellenised town name Πάρθος (Krahe). Type **bhṛĝh-*: cf. Skr. *bhrāj-* 'shine' and *bhṛgu* 'brightness'. Eng. *bright* and W *berth* are E-grade (type **bherĝhto-*). Note also the reduced form in Alb. *bërdhémë* 'whitish' and Illyr. *Birziminium*, *Burzumi-*, *Burzumno-*, town names (Krahe). See further E. H. Sturtevant, Hitt. Gloss.[2] (Philadelphia, 1936) s.v. *parkwis*.

bark m. 'belly, womb'. Type **bhṛk* = W *bru* (from **bryu*) 'belly, womb'. W *brych* 'afterbirth' is from **bhṛks* (with *s* from nom. sg.?—cf. *chwech* 'six' from **sy̯eks* : *chwe* 'six' from **sy̯ek*, *nos* 'night' from **noxts* : *-noeth* in *tra-noeth* 'overnight' from **noxt-*). Cf. Illyr. *Baracō*, *-n-*, *Baraciō*, *Barcinus*, men's names (Krahe). The original meaning of Alb. *bark* may be 'full, swelling, crammed' or the like. See Walde, Meillet s.v. *farciō*, Boisacq s.v. φράσσω.

dal (Tosk) and *ndal* 'I stop, arrest'. W *daliaf* has the same meaning. According to J. Morris Jones, the Welsh form is for **dələghəmi*. See Walde, Meillet s.v. *indulgeō*, Boisacq s.v. δολιχός, Sturtevant s.v. *dalugi-*.

dardhë f. 'pear'. Cf. Illyr. *Dardana*, name of a tribe, *Dardas*, *Derdas*, man's name (Krahe). The Albanian type is **nĝhṛ́dis*, becoming first **dhardhë*, then *dardhë* by dissimilation (cf. *dallëndyshe* 'swallow' for **dhall-*). Alb. *dardhë* = Gk. ἀχράς, *-άδος* and occurs also in Ossetian *kærdó* 'pear'. Probably a non-IE word.

dhallt m. 'buttermilk'. Type **ĝ̑ələ̑kto-*. See Boisacq s.v. γάλα.

farë f. 'seed, race'; *farë brumi* 'yeast'; *faroj*, *farós* 'I annihilate'. Cf. Illyr. *Farra-x*, *Farra-cius*, *Farra-cilius*, men's names (Krahe). Alb. *farë* is from a type **sprā* or **spṛmā*. Alb. *serm* 'seed' and Gk. σπέρμα are E-grade, σπαρτός is N-grade. Cf. *fryj* above.

gjarpën, Tosk *gjarpër* m. 'snake', pl. irreg. *shtërpínj*. Here, as in W *sarff* 'serpent', there has been reduction from **serp-* to **sərp-*, **stərp-*. Note that pre-Celtic *-p-* after *-r-* becomes *-ff* in Welsh (cf. W *corff* 'body').

katër 'four'. Cf. Illyr. *Katarbátēs* (perhaps 'four villages', cf. *botë* 'world'), *Kataros*, town names (Krahe). This is not a Latin borrowing, as Meyer suggests; for such a borrowing would have produced **qetër* (Alb. *q* = palatal *k*). Alb. *katër* is from a type **qy̯ətu̯ór-*.

lag 'I wet'. Type probably **u̯lgu̯ō*, with an extended *l̥*. W *gwlyb*, Ir. *fliuch* 'wet' may belong here, but are related by J. Morris Jones to Lat. *liqueō*. Corresponding to *lag* are Czech *vlhký* 'wet' and Lith. *vilgáu* 'I wet'. The Albanian word is not a Slavic loan word, since borrowing would have produced **valg* (cf. *baltë* 'mud', *daltë* 'chisel'). The Elbasan dialect has also *vlag* 'moisture', a recent Slavic loan word.

latë f. 'small hatchet'; *latoj* 'I trim, chop round'. The noun is probably from a type **dhl̥tā*. Alb. *daltë* 'chisel', an early Slavic loan word, is probably cognate with *latë*.

madhë m., *madhe* f. 'great', pl. *mëdhenj* m., *mëdhája* f. Cf. Illyr. *Mezaioi*, *Mazaioi*, *Maezeii*, name of a people (fluctuation in first vowel points to original *ə*), also *Madia*, man's name, and Messap. *maddes* (Krahe). If we assume an IE series **meĝ-*, **məĝ-*, we still cannot account satisfactorily for Gk. μέγας beside Skr. *mahắn*, still less for OE *micel* beside *mægen* 'strength' (surviving in the phrase *might and main*). It is better to assume two quite separate and independent roots. The Albanian type is *məgəl-*, with shifting accentuation accounting for the varying forms in singular and plural. Cf. Gaul. *magalos*, *magilos* 'prince', which has the same grade. Arm. *medz* is further proof of palatalisation, but is E-grade like Hitt. *mekis*. For the vowel of Lat. *magnus* cf. *quattuor* : *katër*, *status* : *shtat*.

mardhë f. 'chill'; *márdha* 'I felt cold'. The noun is from a reduced form of the type **morĝhā́*; cf. OSl. *mrazъ* 'frost'. The verb is from a type **mərĝhóu* with stress shifted backwards; cf. OSl. *mrъznǫti*.

na 'we, us'. The strong forms for 'we, us' are *ne, neve*, from **nōs, *nōbh-*. Alb. *na* is the originally weak form of the type **nəs* which has become stressed.

palë f. 'fold, pair'. See Boisacq's explanation of διπλόος.

parë adj. 'first', *par-* 'before' in certain compounds. Cf. Illyr. *Paris, Assoparis, Voltu-paris*, men's names, and Homeric Αἰνόπαρις Δύσπαρις (Krahe); and cf. further Arm. *arrač* 'front'. According to Meyer, this is IE **por-*; but it is more probably from **pr̥-*, earlier **pr̥u̯-*. Cf. Skr. *pūrva*, OSl. *prъvъ*.

pári in phrases: *së pari* 'first of all', *këtú pari* 'hereabouts'. This form presupposes a type **pəri* from **pr̥i*, and is equivalent to Goth. *faúri* = Gaul. *ari, are* (= OSl. *pri*). Cf. Hitt. *pariya* beside *parā* (Sturtevant, Hitt. Gl.[2]). Alb. *pari* is in R-grade relation to Gk. περί.

shtat m. 'form, figure'. Type **sthətós*; cf. Illyr. *Staticus, Statica*, personal names (Krahe). Alb. *shtet* 'state' is a cognate borrowing from Latin.

shtrat, pl. *shtrétna* m. 'bed'. Type *str̥tō, -en*: Gk. στρατός, Skr. *str̥taḥ*, W *ystrad* 'valley', Lett. *stirta* 'drying rack, haystack'.

trashë adj. 'thick'; *ndrash* 'I thicken'. Type **tr̥si̯o-* or **tl̥si̯o-*. In the light of Illyr. *Talasios, Talsius*, men's names (Krahe), the Albanian word seems to be from a type **tl̥si̯o-*, cf. OSl. *tlъstъ* 'fat'. But I can find no Albanian parallel to establish *tl-* > *tr-*. The Albanian word is of course not related to Lat. *crassus*, as Meyer suggests.

tharb 'I acidify'; *tharbët* adj. (old ppl.) 'acid, sharp'. Type **k̂ərbh-* from **k̂r̥bh-*. Lat. *acerbus* may be from a type **ə́k̂erbh-* or even **ə́k̂r̥bh-* and is clearly a related form. Cf. also OSl. *Srъbin*, Srb. *Srb* (with short *r*) 'Serbian', probably originally meaning 'strong', and W *cryf*, Ir. *croibh-* 'strong' from **k̂r̥bh-* with short *r̥*. Cf. further MHG *herwe, herbe* 'harshness' and Eng. *harrow* 'agricultural implement'. For the semantics cf. Gk. κράτος 'strong' beside Lith. *kartús* 'bitter'.

valë f. 'wave'; *vlon* 'wells up, boils'. The noun type is probably **u̯l̥nā* or *u̯l̥nis*: OSl. *vlъna*, Lith. *vilnìs* 'wave'. OHG *wëlla* is E-grade. (Note that the Albanian word for 'wool' is *lesh*; see Boisacq s.v. λάσιος).

vrap m. 'haste'. Type **u̯r̥p-*, which is the same grade as Lith. *virpiù* 'tremble', Lett. *virpas* 'lathe'. W *gwyraf* 'I swerve, bend' may belong here, but see *urth* above. Cf. further Arm. *varem* 'I plow' (lit. 'I turn'?) and Boisacq s.v. ῥάπτω (N-grade) and ῥέπω (E-grade), also Lat. **repō* 'I rush' in the old pres. part. *repēns* 'sudden'.

The following verbs further illustrate that the words of N-grade or R-grade origin with *al* or *la, ar* or *ra* in Albanian are mainly reductions of verbal types—i.e. that Alb. *a* in general represents earlier *ə* in *əl, ər*, or else some stage of utterance short of actual *l̥, r̥*.

vjerr (**su̯eri̯ō*) 'I hang', Lith. *sveriu* 'I weigh' : aor. *vora* 'I hung' : *varr* (**su̯ər*) 'I hang' (intrans.). With Lith. *sveriù* (E-grade) cf. *svarus* 'heavy' (O-grade) and *svi̯rù* 'I hang down, sway', *svirtis* 'steep' (N-grade).

qelb 'I suppurate' : *kálbem* 'I rot'.

erdha 'I came' : *árdhun* ppl. 'come'.

bie (**bherō*) 'I bring' : *bar* 'I carry'.

vdierr, bdierr, bierr (**adbherḭō* or **dobherḭō*) 'I destroy' : *vdora, bdora, bora* 'I destroyed'; *vdorë, bdorë, borë* f. 'snow' : *vdar, bdar* 'I lose'.

The following words seem to have been reduced in the Albanian period, the base vowel becoming *a* when stressed at the time of stress stabilization, i.e. after the first Latin loan words had entered the language. Some, however, may be original R-grades or N-grades: *barmë* f. 'inner bark of tree' from **bhormā́*, cf. Gk. φορμός 'basket, matting, reefer jacket'; *barrë* f. 'burden' either from **bhormā́* or from **bhernā* = Gk. φερνή 'dowry'; *llânë*, Tosk *llërë* f. 'ell' from **olnā́* > **lənā́*; *darkë* f. 'evening meal' (beside E-grade *drekë* f. 'midday meal') from **dorḳā́*, cf. Gk. δόρπον and Alb. *dërkuj* 'I sup' = Gk. δορπέω from **dorḳéḭō*; *gardh* m. 'fence' either from **ghərdho-* or from **ghordhó-* (if not borrowed from OSl., cf. *baltë* 'mud', *daltë* 'chisel').

3a. Original *ṃ, ṇ* and *əm, ən*

âmbël, Tosk *ëmbël* adj. 'sweet'; *t'âmbël* 'milk'; *t'âmbëlth* 'gall'. Type **əmblús* or **əmḷós*; cf. Gk. ἀμβλύς, ἀμαλός and Skr. *amla*. Not a borrowing from Lat. *amābilis*, as Meyer supposes!

âmë, Tosk *ëmë* f. 'mother'. Cf. Illyr. *Amma*, woman's name. Clearly a child's word, cf. Bask and Hebrew *ama* 'mother'; and cf. Walde, Meillet, s.v. *amāre*.

ândërr, Tosk *ëndërr* f. 'dream'. The exact relation of this word to Gk. ὄναρ, ὄνειρος is not clear. See Boisacq s.v. ὄναρ.

dând, Tosk *dëndë* adj. 'dense', vb. 'I make dense'. Type **dṇtó-* for the adjective, **dṇtoḭō* for the verb.

dhâmb, Tosk *dhëmp* m. 'tooth'. Type **ĝombhós*. The accentuation, compared with that of Gk. γόμφος and Skr. *jámbhaḥ*, is irregular, probably owing to the influence of *kâmbë* 'foot' or the name of some other part of the body; cf. the influence of Goth. *tuggō* and *munþs* on *tunþus*, which would otherwise have been **tanþus*. Further cognates of *dhâmb* are OSl. *zǫbъ* 'tooth' and probably Arm. *dzamen* 'I chew'.

dhândërr, Tosk *dhëndër* m. 'son-in-law, bridegroom-to-be'. Type **ĝentér-*. See Walde, Meillet s.v. *gener*.

kâmbë, Tosk *këmbë* f. 'foot, leg'. Type **kampā́*, lit. 'bent, crooked'. Cf. Gk. καμπή 'bend', Lith. *kaĩmpas* 'corner'. Lithuanian also has *kuĩmpis* (R-grade); cf. Eng. *ham*. If we add Gaul. *camba*, we must assume that *-mb-* was the current spelling for *-mm-* (i.e. *m* lengthened by loss of *p*). Cf. further W *cam* 'crooked' from **kamp-*.

kând, Tosk *kënt* m. 'corner'. Type probably **kanthó-* = Gk. κανθός 'corner'. I am persuaded that this word is IE in view of its wide distribution: cf. W *cant* 'circumference', Goth. *handus*, OSl. *kǫtъ* 'corner'. The original meaning seems to have been 'side'.

krânde f. 'brushwood, sticks, etc.' Like many feminines in *-e* (*jā*-stems) this is from a plural or collective form, here **krn̥tiā̆*. See further Boisacq s.v. *κράνον*, Walde, Meillet s.v. *cornus*, A. Macbain (Etym. dict. of the Gaelic lang.[2]; Stirling, 1911) s.v. *crann, creathach*.

lândë, Tosk *lëndë* f. 'wood, timber, tree, material'. Both **lentā́* and **ln̥tā* would produce the Albanian form. Lith. *lentà* 'board' and Icel. *lind* f. 'lime-tree' are E-grade; but Gk. *ἐλάτη* 'pinetree' (from **eln̥tā*) would seem to be the primitive form, indicating that the Lith. and Gmc. forms are due to metathesis. The IE type **eln-bhos* (Gaul. *elembos*) perhaps means 'a wood-inhabiting animal'.

mbrâmë, Tosk *prëmë* f. 'evening'. Type **en-per-apəmā*, **per-apəmā*, a feminine superlative of the type of **apó*. For the loss of *p* cf. *gjumë* above.

Tosk *mënd* (Geg **mând* not citable) 'I suckle'. Cf. W *mant* 'chin' and see further Boisacq s.v. *μασᾶσθαι* and Walde, Meillet s.v. *mentum*.

ndândë, *nândë*, Tosk *nënt* 'nine'. Type **éndeu̯n̥ti*. Here we have either conversion of *n̥* to *ân* (Tosk *ën*) or stressing of reduced *e*, the result being the same in either case.

pëllâmbë, Tosk *pëllëmbë* f. 'palm'. Type **pln̥mā*, not **pl̥mā*, though the latter was undoubtedly the original form. W *llaw*, earlier *llawf* establishes the length of the *l̥*.

rândë, Tosk *rëndë* 'heavy'. Type **gu̯rn̥dho-* (see Boisacq s.v. *βρενθύομαι*), clearly an extension of the *gravis*/*βαρύς* type. Not a borrowing from Lat. *grandis*, as suggested by Meyer, but a cognate form; Lat. *grandis* would appear as Alb. **grenë*.

rrânzë, Tosk *rënxë* f. 'root'. Type **u̯rn̥diā̆* from earlier **u̯rdmiā̆*. Fusion of *i* with the dental prevents umlaut. Ir. *freamh* is from **u̯rdmā* (MacBain). See Boisacq s.v. *ῥάδαμνος*.

shkâmb, Tosk *shkëmp*, pl. *shkëmbínj* m. 'rock'. A difficult word, since initial *shk-* (except in words where *sh-* is a prefix) is hardly an IE combination. IE initial *sk-*, *sq-* > Alb. *h-*; IE *sḱ-* > Alb. *ç* (= *č*). The simplest solution would be to consider this and other words beginning with *shk-* (*shkop* 'stick', *shkrap* 'scorpion', etc.) as non-IE words, perhaps of 'Mediterranean' origin. For *shkâmb* cf. Illyr. *Skampis*, name of a town, and *Skampa*, old name of Elbasan.

tândë, Tosk *tëndë* f. 'tent, awning'. It is tempting to see in this an IE type **tn̥tā*: W *tant*, Ir. *tead* 'string, rope', cf. Lith. *tįsùs* = Lat. *tēnsus*, all N-grade. The meaning, however, is clearly influenced by Lat. *tenta*. Against the theory of IE origin is the fact that Lat. *tentāre* 'tempt' appears in Albanian as *tândoj*.

vâng (Geg only) m. 'hoop' beside *vângët*, Tosk *vëngër* 'squint-eyed'. The same grade is seen in Lith. *víngis* 'crooked'. OHG *winkan*, *wankōn* are E- and O-grade respectively. Documentation in other languages is uncertain.

It is a pity that the original word for '100' has disappeared from Albanian. If it existed it would be **thând*, Tosk **thënt*.

3b. Original *m̥*, *n̥* and *əm*, *ən* umlauted in Geg by following *i*

dhênd, *dhên*, Tosk *dhën* (pl. only) 'sheep'. The form *dhênd* is given by Buzuk in 1554. The singular of the word is *dele*, which is of different origin (cf. Lat.

fīlius). Apparently *dhênd* is from a type **ĝn̥teie̯s*: cf. Arm. *dzin* 'birth' (an umlauted form) and see Walde, Meillet s.vv. *nātus, gener*, Boisacq s.v. *γίγνομαι*, Miklosich (Etym. Wb. d. slav. Spr.; 1886) s.v. *zjatь*.

emën, Tosk *emër* and *ëmër* 'name'. The presence of Tosk *emër* beside *ëmër* indicates that this word may, after all, be truncated from a type **ən-ōmn*. Altogether an obscure word.

ênd, aor. *ânda* 'I weave'; medio-passive *êndem* 'I wander'. Type **n̥t̯ō*. See Boisacq s.v. *ἄττομαι*.

gorén, Tosk *gorén* and *gorẽn* m. 'north'. Type apparently **gu̯oreŋes* = Gk. *βορέᾱς*, q.v. in Boisacq. This may be non-IE. The usual Albanian word for 'north' is *verí*, but Buzuk uses *aglón* (< *aquilō*), a word not found elsewhere.

lênd m., Tosk *lëndë* f. 'acorn', also Tosk *vlendë* 'a variety of acorn'. Type **gu̯élṇdis* (not a borrowing from Latin as Meyer suggests); see Boisacq s.v. *βάλανος*, Walde, Meillet s.v. *glāns*. The Albanian word for 'gland' is an early Latin loan word *gjândërr*, Tosk *gjëndër*. The Greek dialects of Albanian have *glëndër*, and I have heard a variant *grëndël* in the Çamërí region, both words meaning 'gland'.

mbrênda, Tosk *brënda* 'inside'. Type **en-per-en-do*, becoming **enpérndo* in Geg with subsequent metathesis and **ənprndo* in Tosk. See Sturtevant s.v. *parranda*.

mêj, aor. *mêna* 'I lessen, cease, stop'. Type **mŋ̍t̯ō*: Arm. *manr*, W *man* 'small'. See Boisacq s.v. *μανός*.

mênd, Tosk *mënt* m. 'mind', beside N. Geg *mênde*, Tosk *mëndje* f. 'mind'. The second form is an old plural of the first, which is from a type **mŋ̍tis*: Arm. *mid* (with umlaut) in *an-mid* 'brainless', Lith. *mintìs* 'thought', Lat. *ment-em*. The Albanian word is not borrowed from Latin. The borrowed form would be **mind*, Tosk **mint* (cf. *qind* '100' from *centum*, *gjindje* 'people' from *gente-*, *prind* 'parent' from *parente-*, and cf. further Rum. *minte* 'mind').

pê, gen. sg. *pêni*, Tosk *pë*, *përi* m. 'thread'. Type apparently **petinó-*. Cf. *gjylpânë* 'needle' from **sau̯ilpətnó-* 'thread-eye'.

pêndë, Tosk *pëndë* f. 'feather, pen, yoke of oxen, acre'. Probably a Latin borrowing, though in the sense of 'acre' the word is clearly influenced by Celt. *arapennis* 'acre' (lit. 'on the head'? or for **agrapennis* 'head of field'?).

rênd m. 'row, line'. Type **rn̥dis, *ərndis*: OSl. *rędъ*, Lith. and Lett. *rinda*, Gk. *ἀράδα*. A doublet of this word appears in Alb. *red* 'turn, time, series', borrowed from Slavic; a second doublet appears in *radhë, rradhë* 'turn, series', borrowed from Greek. (Alb. *rênd* is not an OSl. loan word, as is proved by the umlaut; contrast *grusht* above.)

sênd, Tosk *gjë-sënt* m. 'thing'. Type **esn̥̍tis* (note stressed *n̥̍*). A doublet of this word would seem to be *gjâ*, gen. sg. *gjâni*, Tosk *gjë*, *gjëri* m. 'thing' from a type **ésn̥tis* with stressed *é*. Note that original *s* in an unstressed syllable > Alb. *gj*.

shtrêmbën, Tosk *shtrëmbër*, also Geg *shtrêmbët* 'crooked'. The first form is the exact equivalent of Gk. *στράβων*, q.v. in Boisacq. The last form is an old participle.

4. Words with weak sentence stress

Geg *sh-*, Tosk *ç-*, negative prefix. Type **eḱs-* reduced to **ḱs-*. For the further history of this prefix see Boisacq s.v. ἐκ-, Walde, Meillet s.v. *ex*. That the N-grade form *ḱs-* existed as a weak prefix in Prim. IE beside *eḱs-* is indicated by Slavic *s-/ch-*. My rule for the Slavic prefix is as follows: IE *ḱs-* > Sl. *ch-* before gutturals, *s*, *l*, *r*, and sometimes *m*; IE *ḱs-* > Sl. *s-* elsewhere. Examples: (1) *gladɔ* 'hunger' < IE **goldho-* (Gmc. **kaldaz* 'cold') : *chladɔ* 'cold' < IE **ḱs-goldho-* (cf. Lith. *šaltas* < **ḱs-goldh-tos*, Ger. *erkältet* < **ḱs-goldhito-*); (2) *gramɔ* 'house' < IE **ghormo-* (cf. Skr. *harmyáḥ* 'palace') : *chramɔ* lit. 'outhouse' < IE **ḱs-ghormo-*; (3) *grɔbɔ* 'back' < IE **ghṛbo-* : *chrɔbɔtɔ* 'nape of neck' < IE **ḱs-ghṛbo-* (lit. 'out-back').

-ëm, -ët, -ën, plural endings of the aorist, as in *patëm, -ët, -ën*, 'we, you, they had'. Types **potmo-*, **potte*, **potn̥ti*; athematic as in Greek.

ën prep. with abl. 'from'. The word occurs only in Buzuk, but is still used as an intensive prefix, e.g. in *n-gjall*, cf. Lat. *in-vigorāre*. It is cognate with Arm. *an-* 'from, not, un-' Celt. *an-*, Gk. *ἀ-*, Lat. *in-*, Gmc. *un-*, etc. For the semantics ('from' > 'un-') cf. W *eh-ang* 'not narrow', Gaul. *Ex-obnus* 'not afraid'.

-ës pres. part. suff., as in *dashës* 'loving'. Cf. Illyr. *Dasas*, gen. sg. *Dásantis* beside *Dases*, *Dásentis*, also *Dazas*, *Dázantis* (*z* = *sį* or *ś*). Illyrian type **dausn̥ti-*. See Feist, Etym. Wb. der got. Sprache s.v. *dius*, Boisacq s.v. *θεός*.

ká, gen. sg. *kau*, pl. *qé* m. 'ox'. The original form of this word may have been **əksō, -n-*. See Feist s.v. *aúhsa*, Walde, Meillet s.v. *ūvidus*. W *ych* 'ox' is presumably from a form **ksō*, since **əksō* would have yielded *ach*.

kjo fem. pron. 'this, she'. Type **qu̯i̯ā*.

mbë prep. with acc. 'at'; *mbi* prep. with acc. 'on'. The second form is the stressed equivalent of the first; type **n̥bhí*. Cf. Illyr. *Ambi-dravi*, *Ambi-savi* 'dwellers on the Drava, Sava'. Welsh has both *am-* and *ym-*, R-grade and N-grade respectively.

në, Buzuk *ëndë* prep. with acc. 'in, into'. Messap. and Hitt. *anda* 'in, into'. The IE type **endŏ* becomes **əndə* through lack of sentence stress. That the reduced form **əndo* existed in Prim. IE is proved by MHG *unze*, Eng. *unto* beside *into*.

për prep. with acc. 'for'. Type **per* reduced by weak sentence stress to **pər*. W *er* 'for, because', Lith. and Lat. *per* are E-grade. Alb. *për* is also used as an intensive prefix 'very' as in Lithuanian and Latin, and is equivalent in form and meaning to W *rhy*.

plotë adj. 'full'. Type **pl̥āto-* or perhaps **pl̥nāto-*. W *-lyd* in *creu-lyd* 'full of blood' and Arm *li* are from a type **pl̥t-*, **pl̥-* (with short *l̥*), whereas W *llawn* is from a type **pl̥no-* (with long *l̥*).

prapësëm 'hindmost'. Type **per-apisəmo-*. IE **apó*, of which this is a superlative form, appears as Alb. *pa* 'without', with R-grade. For the superlative ending cf. Gaul. *uxísama* f. 'the highest' (*x* = *ks*) from a type ending in **-isəm-*. See Walde, Meillet s.v. *plūrimus*.

tër- prefix in *tër-mal* 'up the mountain', etc. Welsh has both *tar-* and *tra*

(from **tər* and **trə* respectively) beside *traw* (from **tr̥*). Cf. Illyr. *Tra-gurium*, name of a town (Krahe), and Skr. *tr-* 'cross'. For further evidence see Walde, Meillet s.vv. *termen*, *trāns*, Boisacq s.v. τέρμα, Sturtevant s.v. *tarma-*.

-th dim. ending masc. Type apparently **-əǩis*. Evidence in other languages lacking.

thní, Tosk *thërí* f. 'nit'. This word may or may not have been reduced within the Albanian period. Type either **ǩnis*, **ǩnid-*, as in Germanic and Slavic (cf. also Lett. *gnīda*), or less probably **ǩonís*, **ǩoníd-*, as in Greek. Arm. *anidz* 'nit' would seem to suggest—I put this forward with great hesitation—the falling together of preconsonantal initial *g-* with a laryngeal semivowel, both producing Arm. *a-*; cf. Arm. *anun* 'name', *amis* 'month'.

i ynë m., *e jonë* f. 'our'. Type **is ei-n̥s*, **i̯a ejā-n̥s*. For prefixed *ei-* cf. W *ein* 'our'; the form **-ns* appears in Gmc. **uns-* 'us', etc.

5. Latin and Greek loan words with restressed base vowel

Many words, chiefly of Latin origin, were borrowed into Albanian before the stabilization of stress. When the stress became fixed, it was generally placed on the last syllable, but on the penultimate syllable of words ending in a vowel or in *-ël*, *-ëm*, *-ën*, *-ër*, *-ës*, *-ësh*, *-ët*, *-ëz*, *-ull*, *-un*, *-ur* (see Mann, Hist. Alb. and Engl. Dict. 1). The process of reduction followed by stressing or restressing can best be illustrated by the following example: *páganus* (with pre-Plautine stress) > **págənə* > **pəgánə* > *pəgânë* (Tosk *pëgërë*). Below is a representative list of words in which an unstressed and hence reduced syllable has come to be restressed.

âmtë, Tosk *emtë* f. 'aunt'. Type *ámita*.

argjând and *rrgjând*, Tosk *ërgjënt* m. 'silver'. Type **árgənto-* or **ərgənto-*. The word is a borrowing, most probably from Latin; the prototype had palatalized *g* (cf. Arm. *ardzat* 'silver') and would have yielded Alb. **ardhând* if original. Palatalization is suggested even in W *arian*. Possibly a non-IE word: cf. Georgian *rkina* 'iron'; but on the other hand cf. Skr. *arjan* 'white'.

gjândërr, Tosk *gjëndër* f. 'gland'. Type *glándula*; cf. Rum. *ghindă*.

kângë, Tosk *këngë* f. 'song'. Type *cántica*.

mâ, Tosk *më* adj. and adv. 'more'. Type *magis* with weak sentence stress, according to Meyer.

mângë, Tosk *mëngë* f. 'sleeve'. Type *mánica*.

mângut 'lacking' beside *mungój* 'I lack'. See Meyer s.v.

rânë, Tosk *rërë* f. 'sand'. Type *árena*.

tâmbël, Tosk *tëmbël* f. 'temple (of the head)'. Type *templa* (It. *tempia*); see Walde, Meillet s.v. *tempus* 2.

tânë, Tosk *tërë* 'the whole'. Type *tótanus*.

Greek and 'Mediterranean' words: *mângën*, Tosk *mëngër* m. 'mangle, press' : Gk. μάγγανον; *qândër*, Tosk *qëndër* f. 'center' : Gk. κέντρον; *shtâmbë*, Tosk *shtëmbë* f. 'pot, jar' : Gk. στάμνος; *shkrap* m. 'scorpion' : Gk. σκορπίος; *kândërr* m. and f. 'insect' : Gk. κάνθαρος.

QUINTILIAN ON GREEK LETTERS LACKING IN LATIN AND LATIN LETTERS LACKING IN GREEK (12.10.27–29)

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[Quintilian has been thought to say that Greek φ was transliterated by Latin *f*. This is quite out of line with the findings of linguistic scholars concerning his period. An attempt is made here to prove that Quintilian's testimony is really not incompatible with these findings, but that Latinists have misunderstood him as a result of faulty emendation and interpretation.]

In 12.10.27–34 Quintilian compares the pronunciation of Greek and Latin, much to the disparagement of the latter. He lists first two melodious Greek letters[1] lacking in Latin, and two unpleasant-sounding Latin letters lacking in Greek. Thereafter he goes on to an enumeration of certain other harsh features of Latin involved both in letters (the special use of *q* in combination with *u*, and the use of *m*, *b*, and *d* as syllable-finals) and in accent, none of which concerns us here. The pertinent part of the discussion of Latin as compared with Greek runs as follows (27–29):

Namque est ipsis statim sonis durior, quando et iucundissimas ex Graecis litteras non habemus, vocalem alteram alteram consonantem, quibus nullae apud eos dulcius spirant; quas mutuari solemus quotiens illorum nominibus utimur; quod cum contingit, nescio quo modo hilarior protinus renidet oratio, ut in *zephyris* et *zopyris*, quae si nostris litteris scribantur, surdum quiddam et barbarum efficient. Et velut in locum earum succedunt tristes et horridae, quibus Graecia caret. Nam et illa quae est sexta nostrarum, paene non humana voce vel omnino non voce potius inter discrimina dentium efflanda est; quae, etiam cum vocalem proxima accipit quassa quodam modo, utique quotiens aliquam consonantem frangit, ut in hoc ipso *frangit*, multo fit horridior. Aeolicae quoque litterae, qua *servum cervum*que dicimus, etiamsi forma a nobis repudiata est, vis tamen nos ipsa persequitur.

This I would render, keeping as close as possible to the original:

For it [Latin] is harsher at the outset as regards its very sounds, since in the first place we lack the most pleasing Greek letters, one a vowel and the other a consonant, which none of their letters excel in sweetness; these we regularly borrow whenever we use their words, and when that happens, somehow our speech immediately becomes so to speak more joyous and gladsome, as in *zephyris* [ζέφυροι 'zephyrs'] and *zopyris* [ζώπυρα 'sparks'], words which if they were to be written in our letters will produce a certain dull and barbarous effect. And the place of these letters, so to speak, is taken by harsh and repulsive ones which Greece lacks. For in the first place the letter which is sixth in our alphabet has to be pronounced almost without a human voice or without any voice at all, being rather blown out in the space between the teeth; even when it is followed by a vowel it has a certain jagged sound, and when it crashes upon a consonant, as occurs in this very word *frangit* ('crashes'), it becomes much rougher still. The Aeolic letter too, which we use in saying *servus* and *cervus*, even though its form has been rejected by us, nevertheless has possession of us so far as its actual force goes.

[1] It is obvious that when Quintilian uses the word *littera* 'letter' he refers not only to the character but also to the sound which it represents. For the sake of convenience and brevity I shall in discussing Quintilian's dicta conform to his terminology.

Now what are these four mutually lacking letters (two belonging to Greek but not to Latin, two belonging to Latin but not to Greek) of which Quintilian speaks? The identity of the two belonging to Latin is indisputable. The sixth letter of the alphabet, which occurs in combination with another consonant in *frangit*, is of course *f*; and the Aeolic letter (i.e. digamma, or rather Claudius's adaptation of it[2]), which occurs in *cervus* and *servus*, is of course *v* or consonantal *u*. I think the identity of the two Greek letters is equally indubitable: the vowel is υ, and the consonant is ζ.[3] In this order, first the vowel and then the consonant, in the forms *y* and *z*, they were placed at the end of the Latin alphabet[4] in the first century B.C. for use in the transliteration of Greek.[5] They were absolutely indispensable, because without them Latin had no adequate means of writing Greek words containing υ and ζ. Greek had other sounds that Latin lacked, notably the three aspirated mutes; but the Romans could and did represent these orthographically by a combination of their own voiceless mutes with *h*, ultimately domesticating the alien forms to such a degree that they actually introduced them into native words, as *chommoda* in the speech of climbers like Catullus's Arrius,[6] and *pulcher* in the language even of the educated. With υ and ζ, on the other hand, the Romans were unable to cope within the scope of their own alphabet; they lacked equivalent or even approximate characters because they lacked the sounds: [z][7] had disappeared from their language centuries earlier by the process of rhotacism, and [y] they had never possessed.[8] They did at first, to be sure, try out various

[2] See Quintilian 1.4.8: in his *servus* et *vulgus* Aeolicum digammon desideratur; and 1.7.26 (on the spelling of *servus* and *cervus*): nec inutiliter Claudius Aeolicam illam ad hos usus litteram adiecerat. Cf. also Cassiodorus 7.148.5–10 (Keil) = Varro 208.19–209.3 (Goetz and Schoell), and Priscian 2.15.1–7 (Keil). Quintilian's 'etiamsi forma a nobis repudiata est' (29) is probably an allusion to the failure of Claudius's innovation to survive, referred to also by Tacitus (Ann. 11.14) and by Priscian (loc. cit.).

[3] These are surely the letters that he has in mind also in 1.4.7, where he uses much the same terminology (duas mutuamur). In opposition to these two borrowed letters, *x* is referred to a little later (1.4.9) as 'nostrarum ultima'.

[4] Cf. fn. 3.

[5] Cf. Priscian 2.36.17 (Keil). See Carl Darling Buck, Comparative Grammar of Greek and Latin §69 (Chicago, 1933); Roland G. Kent, The Sounds of Latin[2] §24 (Linguistic Society, 1940); Edgar H. Sturtevant, The Pronunciation of Greek and Latin[2] §§127, 202 (Linguistic Society, 1940). (These works are referred to henceforth in this article by their authors' surnames.)

[6] Catullus 84.1.

[7] There is no doubt that this was the pronunciation of ζ at the time when *z* was introduced into the alphabet. See Sturtevant §§99d, 100, 202, 205.

[8] Some have thought that the 'intermediate vowel' supposed to be reflected in the orthographical variation *optumus/optimus* had this sound: see e.g. Kent §§26.3 and 34.3. But Buck §110.4a denies the existence of such an intermediate vowel; and Sturtevant §126 argues most convincingly that if it did exist, it could not have been identical with the Greek υ. Indeed, Quintilian 1.4.7–8 seems to me to prove this, since he here specifically differentiates between υ and the Latin intermediate vowel: desintne aliquae nobis necessariae litterarum, non cum Graeca scribimus (tum enim ab iisdem duas mutuamur), sed propriae, in Latinis, ... ut medius est quidam U et I litterae sonus, non enim sic *optimum* dicimus ut *opimum*. Kent loc.cit. believes that Claudius's proposed symbol was used for the intermediate vowel as well as for υ in Greek words, but Sturtevant §126b shows that there is no evidence for this; and if it had been the case, it is odd that Quintilian

makeshifts, using *u*, *i*, *ui*, and *oe* for υ,[9] and *s*, *ss*, and *d* for ζ;[10] but obviously the only satisfactory device was the actual borrowing of the two needed characters, for without them the Greek words would indeed, as Quintilian says, 'produce a barbarous effect'.[11]

The sense of the passage, then, appears to me absolutely clear and unequivocal; and yet of all the editors and translators that I have consulted,[12] every one, with one single exception,[13] has misunderstood it.

In the first place, a large number take the Greek consonant lacking in Latin as φ, not ζ. It might be supposed that the two Greek words that Quintilian gives as examples for his two letters lacking in Latin could be accepted as evidence in this matter, especially as it seems reasonable and plausible, even if not absolutely inevitable, to assume that both words contain both letters;[14] but the trouble is that, as is perhaps not unnatural in Latin transliteration of Greek,

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does not refer to this symbol in his discussion of the intermediate vowel as he does to the one devised by the same innovator for consonantal *u* in his discussion thereof (1.7.26, and, by implication, 1.4.8 and our own passage 12.10.29; for the first two see fn. 2).

[9] The normal practice was to use *u*; see Sturtevant §127, and cf. Cicero, Orator 160; Quintilian 1.4.15; Priscian 2.36.18 (Keil); Terentius Scaurus 7.25.13–4 (Keil). For the other representations see Kent §24.1.

[10] Priscian 2.24.6–9, 36.18–22 (Keil). See Kent §24.2.

[11] They would before the borrowing of *y* and *z* probably have been written *sepuri*, *sopura* (cf. fnn. 9 and 10).

[12] These are, in chronological order, as follows: 1493 anon. [Locatellus], published at Venice (text); 1494 anon. [Peregrinus], published at Venice (text); 1514 anon. [Naugerus], published by Aldus, Venice (text); 1531 anon., published by Gryphius, London (text); 1541 anon., published by Colinaeus, Paris (text); 1542 Galland (text and comm.); 1641 Pareus (text); 1665 anon., published by Hack (text and comm.; variorum ed.); 1698 Obrecht (text); 1718 Gedoyn (French tr.); 1720 Burmann (text, critical apparatus, comm.); 1738 Gesner (text and comm.); 1774 Patsall (English tr. and comm.); 1784 anon., published at Zweibrücken (text; Bipont ed.); 1805 Guthrie (English tr. and comm.); 1810 Rollin (text); 1812 Pottier (text); 1816 Spalding-Zumpt (text, critical apparatus, comm.); 1821 Wolff, based on Spalding (text and comm.); 1822 Carey and others, revision of Gesner (text); 1823 Dussault, based on Spalding (text and comm.; Bibliotheca Classica Latina); 1829 anon., published by Tauchnitz, Leipzig (text); 1835 Ouizille (text, French tr., comm.); 1840 anon., revision of Gesner, published by Clarendon Press, Oxford (text, very meager critical apparatus, comm.); 1850 anon. [Baude] (text and French tr.; Nisard); 1856 Watson (English tr. and comm.; Bohn); 1866 Bonnell (text and meager critical apparatus; Teubner; later edd. 1889 and 1903); 1866 Frieze (text and comm.; second ed. 1890); 1869 Halm (text and critical apparatus); 1922 Butler (text, English tr., comm.; Loeb); 1935 Radermacher (text and critical apparatus; Teubner).

[13] Halm's fine two-volume critical edition (1868–9). Halm's punctuation, although it differs from mine, betokens practically the same interpretation. He prints the passage as follows: namque est ipsis statim sonis durior, quando et iucundissimas ex graecis litteras non habemus, uocalem alteram, alteram consonantem, quibus nullae apud eos dulcius spirant, quas mutuari solemus, quotiens illorum nominibus utimur (quod cum contingit, nescio quomodo uelut hilarior protinus renidet oratio, ut in 'zephyris' et 'zophoris': quae si nostris scribantur, surdum quiddam et barbarum efficient) et uelut in locum earum succedunt tristes et horridae, quibus Graecia caret.

[14] Not all the editors have made this assumption, however: Galland, who thought that the consonant might be φ, and Gesner, who thought that it must be, print *zopyris* (no φ); and Halm and Butler print *zophoris* (no υ).

the two words vary considerably in the different MSS. Consequently most of the commentators (including myself), not being able to base on the MS testimony their conclusions as to the identity of the Greek letters in question, form their conclusions in regard to these letters on other grounds, and choose the MS evidence that conforms thereto. The following readings are reported: (1) By Burmann: first word, *zephyris*; second word, *zophiris*, *zophyris*, *zopyris*. (2) By Spalding-Buttmann: first word, *ephiris*, *zephiris*, *zephyris*; second word, *zephiris*, *zophyris*, *zopyris*. (3) By Halm: first word, *epiris*, *gephiris*, *zephiris*; second word, *gophiris*, *zephiris*, *zophiris*, *zopyris*. (4) By Radermacher: first word, *ephiris*, *epiris*, *zephiris*; second word, *zephiris*, *zophiis* (sic), *zophiris*, *zopyris*. We may certainly rule out of consideration Halm's *gephiris–gophiris*, in which the initial *g* is obviously a mere by-form of *z*; and also, since every one agrees that the Greek vowel is *υ*, all the variants in which *y* is replaced by *i*—*ephiris*, *epiris*, and *zephiris* for the first word; *zephiris*, *zophiris*, and the obvious slip *zophiis* for the second. But this still leaves us considerable variety: for the first word, the possibility of an original *ephyris* or *epyris* (as indicated by the actually existing *ephiris* and *epiris*) vs. *zephyris*; for the second, the possibility of *zephyris* if the first word has some other form, otherwise a choice between *zophyris* and *zopyris*. If we believe the Greek consonant to be *ζ*, we shall probably favor the combination of *zephyris* with either *zophyris* or *zopyris*; if we believe it to be *φ*, we may accept either the combination of *ephyris* with *zephyris*, or that of *zephyris* with *zophyris*. The reading *zophyris*, however, has been adopted by no one but the translator Guthrie, its failure to commend itself in general being probably due to the fact that there is no corresponding Greek word known. A similar scruple, however, does not seem to have acted as a deterrent to those who support the reading *ephyris*.[15] The combinations that actually have attained wide popularity are (1) *zephyris–zopyris*, (2) *ephyris* (printed *Ephyris*)*–zephyris*. The only other variant that I have met, aside from Guthrie's *zephyris–zophyris*, is *zephyris–zophoris*,[16] a combination which seems to me inferior because the second member lacks *υ*, although at least *zophoris*, unlike *ephyris*, is a word known to exist.

The MS testimony unquestionably favors the combination *zephyris–zopyris*.[17] The substitution of *ph* for *p* in the second word, giving the varieties *zophyris* and *zophiris*, is in all probability due to the presence of *ph* in the first word. And the reading *zephyris–zopyris* is the only one followed—in my opinion quite rightly—by all the successive editors and translators (except Guthrie) that I have seen from the earliest in 1493 for over three centuries. Quite in keeping

[15] Spalding-Buttmann, in adopting it, assumed that it was the name of a people, and later commentators followed this without question. The conjecture, to be sure, is not lacking in plausibility, since there are several cities named Ephyra.

[16] Halm and Butler; cf. fn. 14.

[17] So, too, does the sense; for these are both perfectly normal Greek words. They are, furthermore, words that are likely to occur in poetical context (cf. Plato's striking figurative use of the second, Laws 677B, *σμικρὰ ζώπυρα τῶν ἀνθρώπων*, of the survivors of the Flood); and Quintilian may have had pleasant literary associations with them which may well have led him, by a common transference of ideas, to attribute to them particular pleasantness of sound as well.

with this reading, most of these editors and translators who expressed themselves at all on the subject held—again in my opinion quite rightly—that the Greek consonant in question was ζ.[18] But Gesner (1738) declared it must be φ, though his reading certainly does not suggest this letter as well as it does ζ.

In 1816 the elaborate critical edition of Spalding[19] introduces an important innovation. Not only is approval expressed of Gesner's view that the consonant is φ,[20] but the reading is changed to fit it, being altered to *Ephyris–Zephyris*. The editor maintains that this reading, found in two codices but with *i* for *y*, is the original one, but was miscopied in one MS *Zephyris–Zephiris*, which led to the disappearance of the first member *Ephyris*, and the replacement of the second member by *Zophyris* and finally by *Zopyris*. According to him, the reading *Zopyris* rests on hardly any authority, and is absurd since it does not contain the necessary φ, but was furthered by the writer's mistaken belief that the consonant in question was ζ, and in its turn tended to induce this view on the part of the reader.[21]

The Spalding-Buttmann view that the consonant is φ has endured ever since unchallenged by commentators on Quintilian. It is presumably shared by the anonymous editor of the Tauchnitz text which appeared in 1829, by the French translator Ouizille (1835), by Baude, editor of the Nisard edition (1850), and by Bonnell, editor of the Teubner text of 1866 (later editions in 1889 and 1903), all of whom follow the reading *Ephyris–Zephyris*; and it is echoed specifically in their notes by the commentators Wolff (1821), Dussault (1823), and Frieze (1866 and 1890), and the translators Watson (1858) and Butler (1922).[22] Only the editors of the two most important text editions, Halm and Radermacher,

[18] So Burmann, Patsall, Guthrie, Rollin. Galland thought it might be either ζ or φ; so, too, according to Burmann, Ascensius (whom I have not seen).

[19] The work on volume 4, containing books 10, 11, and 12, was, according to the Preface, completed after Spalding's death by Buttmann, though his name does not appear on the title-page. Volume 5 is a supplementary volume edited by Zumpt.

[20] Spalding realized that the two letters referred to by Quintilian in 1.4.7 as borrowed from the Greeks were *y* and *z*; see his note ad loc. But, to buttress his belief that the Greek consonant referred to in the later passage as borrowed by the Romans is φ, not ζ, he adds to the note on 1.4.7: 'Quamquam et Φ literam in Graecis nominibus scribendis mutuantur Romani, p et h junctis exprimentes.' This is manifestly absurd: to write *ph* is not to 'borrow' φ; but if it were, a reference to the use of *th* for θ and of *ch* for χ is obviously demanded.

[21] Obviously, since the MSS vary so widely, precisely the reverse process may have taken place. *Zopyris* may well be the original reading, altered into *zophyris* (*zophiris*) or *zephyris* (*zephiris*) by a scribe who assumed the Greek consonant must be φ or who simply made a mistake; then *ephyris* (*ephiris*) may have replaced the first member *zephyris* (*zephiris*) either as a slip or, if *zephyris* had been copied accidentally for *zophyris* as the second member, as an intentional correction. The testimony of the existing codices points distinctly in this direction. Of our two oldest and most important, the Bernensis and the Bambergensis (both 9th or 10th century), the former has *zephiris–zopyris*; the latter has *zephiris–zophiris*, altered by the second hand into *epiris–zephiris*.

[22] To be sure, Butler departs from the Spalding-Buttmann reading, having *Zephyris–Zophoris*, following Halm in his inferior reading (fn. 14) though not in his superior punctuation (fn. 13). Indeed, Butler regularly follows Halm's text, but with a considerable number of changes in punctuation, as he tells us in his preface to vol. 1.

show signs of independent thought in the matter. Halm (1869), who alone in my opinion really understands the passage,[23] despite this fact seems to me to err, as I have already said, in accepting an emendation of his colleague Christ, *zephyris–zophoris*.[24] Finally Radermacher (1935) restores the old—and to my mind right—reading *zephyris–zopyris;* so presumably he too, as does Halm unquestionably, rightly identifies the Greek consonant as ζ.

Now it is time to ask what led to the view that this consonant was φ—a view surely absurd, since, as has already been said, the Romans could represent φ in their own characters. (Furthermore, why should Quintilian have selected φ for mention any more than θ or χ?[25]) Unquestionably, it is the fact that Quintilian goes on to speak of Latin *f*; and the scholars of the Renaissance and later, mistakenly supposing that Quintilian pronounced *ph* as they did,[26] assumed that *f* was introduced at this point as a means of transliterating φ.[27] Now of course this is wholly erroneous. φ was transliterated at first by *p*, and later—beginning, however, long before Quintilian's time—by *ph*.[28] Presumably the method of transliteration corresponded to actual pronunciation; the transition was going on in the period of Cicero, who speaks of changing his pronunciation from *triumpus* to *triumphus*.[29] But *f* must have been wholly distinct from φ or any other Greek sound not only in the time of Cicero, who makes fun of a Greek's inability to pronounce the first letter of *Fundanius*, but also in that of Quintilian, who recalls the incident.[30] If a foreigner's substitution of a sound of his own language for a Roman one was sufficiently noticeable to arouse mirth, we may rest assured that no Roman would have used the character representing his own sound to denote the foreign substitute that amused him.[31]

[23] Cf. fnn. 13 and 22.

[24] Followed by Butler. Cf. fn. 22.

[25] Cf. fn. 20.

[26] For instance, Buttmann thinks that there may be a difference in pronunciation between Roman and modern times as regards *f*, but not *ph*! See his note: 'apparet aliquid peculiare fuisse in F Latinorum; et in eo solo fortasse quaerendum illud inter *Ph* et *F* discrimen, quod hodie non observamus.' Of the commentators that I have read, only Guthrie seems to have had an inkling of the true facts of the case, namely, that the pronunciation prevalent in his own day might not be in conformity with that of the ancients.

[27] So, specifically, Gesner, Buttmann, Wolff. Frieze[2] and Butler actually rewrite the Greek words which they attribute to Quintilian, with *f* substituted for *ph*: *efuris–zefuris* and *zefuri–zofori* respectively! Contrast fn. 11.

[28] Sturtevant §90k. There is also evidence of an early use of *b* for the same purpose, as in Ennius's *Bruges* for *Phryges*; see Cicero, Orator 160, and Quintilian 1.4.15.

[29] Orator 160. Cf. Quintilian 1.5.20.

[30] 1.4.14. It is generally assumed that the witness substituted φ for *f*, as a labial, though all that Quintilian says is that the Greeks substituted aspiration for *f*. Cf. fn. 38.

[31] It is true that *f* later became the approved Latin method of transliterating φ, in other words the Greek aspirate became a spirant. There is some slight evidence of the beginning of this change in popular speech as early as Quintilian's own century in the shape of a few carelessly written Pompeian inscriptions (Sturtevant §92a), but we may safely assume that Quintilian took no cognizance of this. Even while φ was still an aspirate the Greeks used it to transliterate Latin *f* (ib. Chap. 3, fn. 66), but this has no bearing whatsoever on the case; they had no adequate or even approximate substitute for *f* in writing any more than in speech—which is precisely Quintilian's point in 12.10.28–9.

Furthermore, in our own passage Quintilian is clearly contrasting a melodious Greek consonant and a harsh Latin one; he is not suggesting that in writing the one can be substituted for the other.

In the handling of this passage by the scholars cited, it is hard to say whether this mistaken notion on their part—that Quintilian was considering the transliteration of φ by *f*—was the cause or the result of a serious flaw in punctuation: the combining into a single sentence of two propositions which I am sure should constitute two separate sentences. As typical variants I cite the readings of the two most recently issued Teubner texts, those of Bonnell and Radermacher. Bonnell has:

> Quod cum contingit: nescio quomodo hilarior protinus renidet oratio, ut in *Ephyris* et *Zephyris*. Quae si nostris litteris scribantur: surdum quiddam et barbarum efficient, et velut in locum earum succedent tristes et horridae, quibus Graecia caret.

Radermacher has:

> quod cum contingit, nescio quo modo velut hilarior protinus renidet oratio, ut in 'zephyris' et 'zopyris': quae si nostris litteris scribantur, surdum quiddam et barbarum efficient, sed[32] velut in locum earum succedunt[33] tristes et horridae, quibus Graecia caret.

It should be as obvious to the Latinist as to the linguist that this simply does not make sense. We cannot take any variety of Quintilian's words—*ephyris*, *zephyris*, *zopyris*, etc.—and rewrite them replacing the Greek letters by Latin ones WHICH GREECE LACKS. For υ and ζ, not only is there no Latin substitute lacking in Greek,[34] but there is no adequate Latin substitute at all—which is precisely why the Greek characters had to be introduced into the Latin alphabet, and why without them the Greek words listed by Quintilian would seem utterly barbarous.[35] And as to φ, it has just been shown that, though non-linguistically trained Latinists have thought that *f*, genuinely lacking in Greek, might be regarded as a substitute for it, this is really out of the question.

That Quintilian did NOT mean to offer specific Latin substitutes for the Greek characters that he had just been discussing, should have been made clear to any discerning Latinist by his use of *velut*. He is talking in general terms first about the two Greek letters lacking in Latin, and then about the two Latin letters lacking in Greek. He does not intend to offer either member of the second pair as a substitute for either member of the first pair;[36] but he is, I

[32] The variation between *et* and *sed*, both of which have MS testimony, has no bearing upon our discussion. I prefer *et*, however, as forming a better parallel to the *et* before *iucundissimas ex Graecis litteras*; see fn. 39.

[33] The variation between *succedent* and *succedunt* is of considerable importance, and will be discussed later.

[34] Even Gesner and Buttmann recognized that, so far as ζ was concerned. Indeed, this was the main factor in leading Gesner to believe that the consonant in question was not ζ but φ, and Buttmann approves this view: cf. his note, 'haec littera nullam in latinam "qua Graecia careat" transit.'

[35] Cf. fn. 11.

[36] Patsall at least was aware of this, for in his translation he begins a new paragraph with the statement about F; but like the others he failed to see that the passage about 'sad and harsh letters' was also quite distinct from the preceding discussion.

feel sure, struck by the wholly insignificant and fortuitous fact that there are two of each, and so he states that the two extra Latin characters take the place so to speak of the two extra Greek ones. Quintilian is prone to find a rather puerile pleasure in purely casual correspondences of this sort: just so he dwells with seeming satisfaction, as though the phenomena noted had some genuine significance, on the chance details that *s* was replaced by another letter (*r*) in some words but itself served to replace another letter (*t*) in some others,[37] and that the early Romans substituted *f* for aspiration whereas the Greeks substituted aspiration for *f*.[38]

The epithets *tristes et horridae*, then, refer not to any letters used by the Romans in writing *zephyris* and its companion word, but to the two letters to which Quintilian devotes his next two sentences, beginning respectively *nam et illa* (*f*) and *Aeolicae quoque litterae* (consonantal *u*). The *nam* applies to both sentences, and the *et*[39] and the *quoque* are more or less correlative. This should be made clear not only by observation of the general march of the thought but also by a close attention to Quintilian's use of pronouns. *Earum* after *locum* (like *quas* before *mutuari*) unquestionably has as its antecedent *litteras*, the object of *non habemus*. The scholars except Halm apparently take it as referring to *quae*, and yet this is absurd: *quae* is not feminine at all, but neuter; it must refer to the two words just cited, *zephyris* and *zopyris* (or whatever we choose to read in their place), not to the foregoing feminine word *litteras*, for it is not Greek LETTERS but Greek WORDS that are to be written 'by means of our letters'.[40]

In consequence, the verb which has as its subject *tristes et horridae* (*litterae*) must be parallel not with the immediately preceding *efficient* but with *non habemus*. We should accordingly expect it to be present rather than future; and present is what the MS testimony indubitably proves it to be. The two oldest codices[41] have *succedunt*; the 'lectio vulgata' *succedent*[42] is assuredly due to scribes who misunderstood the passage and sought to produce balance with *efficient*.[43] The four earliest texts that I have been able to examine (those of

[37] 1.4.13–4.

[38] 1.4.14. Here the cases are not even strictly parallel; for what the Greeks substituted was almost certainly not pure aspiration but the aspirate mute (see fn. 30).

[39] A similar pair of correlatives is presented by the *et* introducing the reference to the two Greek letters (quando ET iucundissimas ex Graecis litteras non habemus) and the *et* introducing the reference to the two Latin ones (ET velut in locum earum succedunt tristes et horridae, quibus Graecia caret).

[40] We have several parallels just below, words or sounds (not letters) being said to be uttered or written 'by means of letters': cf. 29 qua *servum cervum*que dicimus (*qua* = 'the Aeolic letter'), 30 *equos* hac et *equum* scribimus (*hac* = *q*), scribi illorum litteris non potest (said of the sound, *sonus*, of *q* and *u* in combination).

[41] The Bernensis and the Bambergensis (see fn. 21). The Monacensis (15th century) agrees with them.

[42] 'Incerta auctoritate' (Halm).

[43] Two MSS also have *succedere*, for which Madvig conjectured *successere* (Halm). The perfect tense instead of the present would not be at all impossible here; but the mistake does not seem to be one that a scribe would have been likely to make. Besides, the odds are against the use of the *-re* form, since it is very rare in Quintilian: see Bonnell's Index to Quintilian (= Spalding-Zumpt 6) xxvii, and Neue-Wegener[3] 3.195.

1493, 1494, 1514, and 1531) all have *succedunt*; but beginning with the Colinaeus text (1541) all the editions print *succedent*, the form suited to their false interpretation, until Halm, who alone understood the passage, rightly restored *succedunt* in 1869. The two important new publications after Halm, the Loeb Library edition of Butler (1922) and the Teubner text of Radermacher (1935), both repeat *succedunt*, though how their editors justify this as a correlative with *efficient* is hard to see.[44]

It is indeed a pity that these most recent editors failed to profit by Halm's punctuation. Unfortunately Halm has no commentary with which to defend it, and hence the understanding of the passage which he surely possessed appears to have left no mark whatsoever on subsequent Quintilian scholars.

[44] Butler's English rendering is so free as to obscure the issue, being rather a paraphrase than a translation.

DEFINITE ARTICLE + FAMILY NAME IN ITALIAN

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[The Italian syntactic type *il Machiavelli* 'Machiavelli', with sources in Old Italian use of the definite article with family names in the plural and with nicknames and the like, first crystallized in the Renaissance period together with more frequent use of the family name as a result of humanistic influence. Use of the family name in the singular without the definite article first became frequent in the 19th century, with the common use of the family name as equivalent to the given name in conversation, and for a time had stylistic value as an optional variant; at present, use of the definite article is formal or pedantic, and will probably disappear entirely.]

1. Most descriptive and normative Italian grammars[1] prescribe the use of the definite article preceding a family name[2] in the singular when used alone (not preceded by a Christian name, honorific title, modifying adjective, or the like). Thus *il Machiavelli* 'Machiavelli', *il Farinelli* 'Farinelli', etc., but *Niccolò Machiavelli, il signor Farinelli* 'Mr. Farinelli', and likewise (since Christian, not family names are involved) *Dante, Michelangelo, Napoleone* without article. However, inasmuch as this usage is at present subject to considerable variation and may indeed be said to have almost vanished from conversational Italian, it has seemed advisable to examine the origin and history of the construction, its present status, and its probable future.

2. THE BACKGROUND (1200–1500). In the Old Italian period, as at the present time—from Boccaccio's characters to the villagers of Silone's Fontamara—it has been the normal custom among the common folk, in speaking of and addressing each other, to use simply the Christian name (or a nickname), with or without *messer, don,* or some similar honorific title. Hence little evidence can be adduced from Old Italian for the use of the family name alone, with or without the definite article. Such cases as *il Rossiglione* (= Guiglielmo R.) and *il Guardastagno* (= Guiglielmo G.)[3] or *l'Angiulieri* (= Cecco A.) and *il Fortarrigo* (= Cecco F.)[4] are quite rare, and are doubtless used only to avoid

[1] Cf. the discussions in Vockeradt, Lehrbuch der italienischen Sprache §§330, 331 (Berlin, 1878); Zambaldi, Grammatica della lingua italiana 67 (Milano, n.d.); Fornaciari, Grammatica della lingua italiana 141 (8th ed., Firenze, 1933); Trabalza and Allodoli, La grammatica degli italiani 89 (1st ed., Firenze, 1934); and in numerous other normative and school grammars, a résumé of the dicta of some of which is given by V. Cioffari, Italica 14.95 (1937).

[2] It is not our purpose to treat here of the use of the definite article with Christian names, especially feminine (*la Maria, la Giannetta*; in NIt. also extended to masculine names: *il Renzo*); for a discussion of this common phenomenon, which is also present in other Romance languages, cf. Meyer-Lübke, Grammaire des langues romanes 3.§150.

Another type of construction, with the definite article prefixed to a name (given or family), which it is not our intention to discuss here is the use of an author's name to indicate a book written by him: *vuoi prestarmi il Dante?* 'do you want to lend me the copy of Dante?'

[3] Boccaccio, Decameron 4.9 (ed. A. F. Massèra, Bari, 1927).

[4] Decam. 9.4.

confusion between two persons named Guiglielmo or Cecco in the same story. The only other occurrence of this usage in the Decameron, for example, is *il Canigiano* (= Pietro dello C.);[5] examination of other 13th and 14th century texts[6] shows likewise a practically complete absence of use of the family name alone in the singular.

However, during this period there were present several usages which, at a later time, would give rise to the use of the definite article with the family name when the latter came to be used alone. Most important of these was the habit, peculiar to Italian, of considering the members of a given family as a collective unity and referring to them by the name of an ancestor in the plural, with the definite article:[7] *i Lamberti, i Pulci, gli Uberti* (examples passim in all the old texts). An individual was referred to as So-and-so of the So-and-sos: *messer Ormanno degli Ormanni, Alepro de' Galigai*, etc.; often the particle *dei, degli* was omitted by ellipsis: *messer Guido Galigai, m. Filippo Alberighi*, and the like.[8] From this use of the definite article with the plural arose the parallel use with the singular; originally, the singular form of the family name (*il Gherardo* : *i Gherardi*) was used to refer to one person; later, the plural form was used with the article in the singular (*il Gherardi*), thus giving rise to occasional (usually learned) back-formations in *-i* on names originally ending in *-o*: *Brunetto Latini* remade from *B. Latino, Giovanni Boccacci* from *G. Boccaccio*.

Furthermore, it was likewise customary to use the definite article with nicknames, the other great source of family names. These were either adjectives in quasi-substantival apposition (*Ricchar lo Ghercio,*[9] *Giovanni il Rosso, l'Atticciato*[10]), nouns (*il Gonnella,*[11] *il Testa*[12]), or new-formations by means of suffixes (*il Mangione*[13]) or with a bare verb-stem (*il Tartaglia* : *tartagliare, lo Scannadio*[14] : *scannare*) or with the termination *-a* (*il Zeppa*[15]). In addition to these types of nicknames, there was also that derived from a person's (or an ancestor's) occupation (*Rolandino del passeggero* 'R. son of the toll-collector' : *Rolandino il passeggero,*[16] whence *il Passeggero* would develop as a family name); and that derived from a person's place of origin, either with the place-name itself (*uno maestro Jacopo da Pistoia, chiamato il Pistoia*;[17] . . . *il Firenzuola. Questo aveva*

[5] Decam. 9.1.

[6] E.g. the Novellino; Ricordano Malispini's Storia fiorentina; Dino Compagni's Cronaca; G. Villani's Cronaca; F. Sacchetti's Novelle; etc.

[7] Cf. Augusto Gaudenzi, Sulla storia del cognome a Bologna nel sec. XIII, Bollettino dell' istituto storico italiano (henceforth abbreviated BISI) 19.1–160 (1897), for an exhaustive discussion of the problems connected with the history of the family name in medieval Italy; for the use of the article, cf. especially 20, 25–9.

[8] Cf. Gaudenzi, BISI 19.17, concerning this type of ellipsis. The above examples are all taken from Malispini's Storia fiorentina (ed. Livorno, 1830).

[9] Novellino §32 (ed. E. Sicardi, Livorno, 1919).

[10] Decam. 4.7.

[11] Sacchetti, Novelle 183–5, etc.

[12] Sacchetti, Novelle 98, 108.

[13] Decam. 9.5.

[14] Decam. 9.1.

[15] Decam. 8.8.

[16] Gaudenzi, BISI 19.54.

[17] Sacchetti, Novella 278; *il Pistoia* passim in this novella.

nome Giovanni, ed era da Firenzuola in Lombardia[18]) or with an adjective indicating the place[19] (*un giovane, il Veneziano chiamato*[20]).

The only types of family name which did not always take the article as a result of conditions prevalent in the Old Italian period were those derived from a nobleman's holdings (e.g. *il Farnese* as opposed to *Farnese* without article,[21] *il Cornaro* opposed to *Cornaro*) and names of foreigners: (*Carlo di*) *Borbone*,[22] (*monsignor di*) *Villurois*, (*monsignor di*) *Marmagna*,[23] etc. These types remained unfixed in their usage throughout the following period, and were probably a contributing factor in the later decline of the construction.

3. Rise of the Construction (1500–1800). By 1500, the use of the family name alone in the singular was becoming more frequent in the standard language, especially in learned works; whereas, as we have pointed out, this construction is rare in the 13th and 14th centuries, such writers as Alessandra Macinghi negli Strozzi[24] (scripsit 1447–1470) show sporadic occurrences thereof, and others of the second half of the 15th century (Vespasiano da Bisticci, Luigi Pulci, Lorenzo de' Medici) show it with increasing frequency. By 1525, this construction was in full evidence[25] and quite widespread; thenceforth, it was the regular usage for three centuries.

This rise in the frequency of use of the family name alone is doubtless—in view of the learned character of the works in which it is first manifest, the intellectual milieu in which it arose, the short time in which it became common, and the absence of any phonetic or morphological reason therefor—to be considered as related to another development of exactly the same period, the so-called 'umanesimo volgare', humanism in the vernacular.[26] Humanists had developed the habit of referring to each other and to personages of their own time by their family names (*Philelphus* 'Filelfo', *Valla*, *Sphortia* 'Sforza', etc.), in imitation of ancient usage; however, whereas ancient names have always been treated in Italian in the same manner as Christian names (*Cesare*, *Cicerone*, *Titolivio*, and the like, without article), when the use of modern family names

[18] Cellini, Vita 41 (page references are to the Marinelli edition, Milano, 1931); *il Firenzuola* is referred to several times in this and the following sections.

[19] Although, according to Gaudenzi, place-names originally gave rise to family names only through adjectives derived therefrom and used as modifiers (e.g. *Giovanni Cremonese*, *Pillio Medicinese*; BISI 19.70), nevertheless the examples cited above and many others point also to the entrance of place-names into the field of family names through their use as nicknames.

[20] Masuccio Salernitano, Il Novellino 83 (ed. A. Mauro, Bari, 1940); *il Veneziano* passim in this novella (no. 9).

[21] Cellini, Vita 135, 204.

[22] Machiavelli, Lettere familiari §225 (ed. E. Alvisi, Firenze, 1883); also Cellini, Vita 71.

[23] Cellini, Vita 254.

[24] Alessandra Macinghi negli Strozzi: Lettere di una gentildonna fiorentina del secolo XV ai figliuoli esuli, pubblicate da Cesare Guasti, Firenze, 1877.

[25] E.g. in such words as Bembo's Prose della volgar lingua (written ca. 1515, published 1525), Castiglione's Il Cortegiano (1524), Trissino's Epistola a Papa Clemente (1524) and Il Castellano (1529), etc.

[26] A leading force in the development of the Italian standard language in the 16th century; for a discussion with frequent reference to its linguistic influence, cf. Toffanin, Il Cinquecento 84–148 (Milano, 1929).

was transferred from humanistic Latin into the vernacular, it found the syntactic construction with the definite article already prepared for it in the Italian treatment of collective family names and of nicknames and the like.

Another possible source for this construction is a learned imitation of the Greek custom of placing the definite article before a personal name, e.g. ὁ Σωκράτης, which may have exerted some influence through the Hellenizing trend initiated by Gian Giorgio Trissino. It is unlikely, however, that the Greek custom could have had much influence in determining the Italian usage, firstly because in Italian the article is applied only to family names, in contradistinction to the Greek usage, and secondly because the construction of definite article + family name had become fairly widespread in Italy by 1525, before the Hellenizing current had become of great importance.

To illustrate the frequency of this construction, a brief statistical study of the 16th-century prose work most representative of popular speech—Benvenuto Cellini's Vita (1558–62)—may be of interest. Of the nineteen persons referred to at one or more points by their family names alone, fifteen are mentioned by the family name preceded by the definite article in a total of 83 separate references. Opposed to these are 8 occurrences of family names alone without article, of which two are names also used elsewhere with the article, and the other six occurrences represent four family names, two of which are repeated twice each. Of the six family names thus used without article, all but one (*Caradosso*) represent names of possessions (*Farnese, Villurois, Marmagna, Borbone*) or bishoprics (*Cornaro*); three of the six are foreign names. The use of *Caradosso* without the article is to be ascribed simply to a slip or to analogical fluctuation. It will be noticed that the use of the article (83 times) outnumbers its omission (8 times) by more than ten to one, a proportion which increases even more during the following two hundred years.

The use of the definite article came to be regarded as so typical of the family name used alone that at times the article is found even when the Christian name is present but follows the family name, as in occasional poetical use: *il Portinar Giovanni* 'G. Portinari'.[27] I have even found it used in a citation of a Hungarian name in its original order: . . . *del Munkácsy Mihály* 'of M. Munkácsy' in a recent critical work.[28]

Moreover, this construction came to be considered as so representative of Italian that it was imitated in other languages, notably French, in the 17th century, in names connected with the fields in which Italian influence was strongest, literature and painting. In French, for example, the article was used not only with Italian family names in a correct imitation of Italian usage: *le Boccace, l'Arioste, le Trissin, le Tasse*, etc., but also incorrectly with Italian given names: *le Dante*,[29] and was even extended to the names of French artists: *le Poussin*, in imitation of Ital. *il Tiziano, il Tintoretto*, etc.

[27] Lorenzo de' Medici, La Caccia col Falcone, stanza 13, in his Opere 2.24 (ed. A. Simioni, Bari, 1913–4). At present such a construction as *il Rossi Giovanni* is characteristic only of legal use, or else humorous.

[28] R. Barbiera, Immortali e Dimenticati 323 (Milano, 1901).

[29] Cf. Meyer-Lübke, Grammaire des langues romanes 3 §150; Brunot, Histoire de la

4. DECLINE OF THE CONSTRUCTION (1800–). As has been pointed out, there were several gaps in the unity of this usage: the article was never universally applied to names of foreigners or of territorial holdings used as family names; occasional analogical fluctuations would occur with Italian names; and, as is customary in Italian, the article would frequently be omitted in lists of names. Instructive data may be gathered from Vittorio Alfieri's Vita[30] (1790–1803), a work written just before the decline of this construction began. Alfieri uses the article throughout in connection with Italian family names, and in one case (. . . *dell' Annibal Caro*, 31) makes a grammatical slip and wrongly extends its use to the full name. In two lists (111, 267) he omits the articles from series of Italian family names; in both cases the omission was doubtless further facilitated by the fact that the Christian name *Dante* heads the list. In his use of foreign family names Alfieri hesitates, usually omitting the article but occasionally using it: *di Voltaire* (52, 243, 246, 256) but *del Voltaire* (170); (*di*) *Rousseau* (83, 115) but *del Rousseau* (115); etc.

The decisive influence leading to more frequent omission of the article was, however, the change in social conditions following the Napoleonic period, as a result of which the middle classes rose to a position of greater importance, and persons were referred to much more frequently in middle-class speech by their last names alone in ordinary conversation and in direct address. Consequently, the family name being placed more nearly on a par, as it were, with the given name in familiar speech and conversation, the article came to be more frequently omitted through the analogy of its omission with Christian names.[31]

During the 19th century, the use of the article remained customary for ordinary, non-intimate reference by means of the family name alone; its omission came to indicate that the person mentioned was being placed outside the normal categories of non-intimate reference: either 'below' that level (indicating familiarity or contempt) or 'above' it (celebrity, wide-spread reputation). In Fogazzaro's Malombra,[32] for instance, the names *Silla* (the hero) and *Steinegge* (a sympathetic character) normally do not have the article prefixed, and likewise the name *Gilardoni* in conversation only in his Piccolo Mondo Antico (but *il Gilardoni* in descriptive text); the name *Pasotti* (a character presented in a very unfavorable light) in Piccolo Mondo Antico likewise normally takes no article; other, emotionally neutral characters are normally referred to with the article in descriptive text: *il Vezza*, *lo Zerboli*, etc. Names of famous men in politics and public affairs came early to be used without the article: (*Cristoforo*) *Colombo*,[33] *Cavour*, *Garibaldi*, etc., and likewise those of painters, composers,

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langue française 3.425. Nyrop, in his Grammaire historique de la langue française, vol. 5 (Syntaxe), apparently makes no mention of this interesting minor detail.

[30] Page references are to the edition of Alfieri's Vita, Giornali, Lettere by E. Teza Firenze, 1861.

[31] As pointed out by Trabalza and Allodoli, La grammatica degli italiani 89.

[32] All references to Fogazzaro's works are to the definitive edition by P. Nardi, Milano, 1931 ff.

[33] The omission before *Colombo* is undoubtedly due to the historical prominence of Christopher Columbus, not to any desire to avoid confusion with (*il*) *colombo* '(the) dove';

and men of letters: *Beethoven, Haydn* (foreigners), and also *Verdi, Bellini, Carducci, d'Annunzio*, etc.[34]

Through omission of the definite article to indicate familiarity or renown, 19th-century literary Italian possessed a means of focusing attention upon certain persons under discussion as opposed to others, by omitting the article from the names of those nearest the heart of the discussion at the moment. Likewise, a more intimate mood could be created,[35] or a character could be presented as if seen through the eyes of another,[36] by the omission of the article as if in familiar speech.

5. Present Status and Future of the Construction. Through constant encroachment of the familiar and 'intimate' style upon conventional speech, the use of the family name without article has steadily grown more frequent in the 20th century. In ordinary conversation at the present time, persons of the younger generation rarely or never use the definite article except to give a sarcastic or ironical tone to a reference;[37] further factors in this development may have been the laconic style of military usage and the 'telegraphic' style somewhat favored officially in recent years. The article with the family name is almost wholly absent from recent novels, 'intimate' biographies, and similar material in 'familiar' style;[38] even in ordinary works of literary criticism and

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we have 16th-century attestations of *il Colombo* (referring to a certain Alessandro C.) in Parabosco's Diporti 12 ff. (ed. G. Gigli and F. Nicolini, Bari, 1912) and elsewhere.

[34] It will be seen that the names of painters and men of letters came to lose the definite article (as a result of its omission both with names of celebrities and with those of foreigners, under one or both of which categories such names would naturally come) at a relatively early period; contrary, therefore, to the interpretation offered by L. Spitzer (Italienische Umgangssprache 11–2, fn. 1) that the use of the article indicates par excellence a 'knight of the spirit': 'Wenn Fogazzaro S. 32 [i.e. Malombra 39 in Nardi's edition, 1931] gefragt wird: *Voi siete il Corrado Silla?* wissen wir sofort, dass wir mit einem Ritter des Geistes zu tun haben.' Such an interpretation of this passage from Malombra is, furthermore, based upon a misprint: Nardi points out (page 702 of his edition) that the original and correct reading is *Voi siete il signor Corrado Silla?* which became corrupted in later editions. In any case, *il Corrado Silla* would be an exceptional case and as much out of harmony with normal Italian usage (which would call for omission of the article when the family name is preceded by the given name) as Alfieri's *dell' Annibal Caro* cited above.

[35] Cf. the variation in usage in Borgese's critical work on d'Annunzio (Napoli, 1909), for example: in the first two sections, of biographical and narrative nature, the definite article is much less frequently used with *d'Annunzio* and other names than it is in the third section, which is primarily critical in content.

[36] An interesting example of this is in Fogazzaro's Un' idea di Ermes Torranza: the old poet Torranza is referred to throughout as *Torranza* (in conversational style; he is presented from the emotional standpoint of the heroine) except in one place, where the author speaks of him in more objective style from the point of view of a literary critic, using the article: ... *della strofa in cui il Torranza parla a certa gente del proprio ideale* (Racconti 42).

[37] Personal observation, confirmed in private conversation by Professors G. Bonfante and R. Poggioli (to whom I am indebted for criticism and suggestions).

[38] In such works (chosen at random) as Matilde Serao's Il paese di Cuccagna (1891), Italo Svevo's Senilità (1898), G. A. Borgese's Rubè (1921), Ignazio Silone's Fontamara (1933), Aldo Palazzeschi's Il Palio dei Buffi (1937); the 'intimate' biography by Tom Antongini, Vita segreta di Gabriele d'Annunzio (1938); the speeches, aimed at theatrical effect, of certain political figures; etc.

didactic material, the article is by no means universally used.[39] The only type of writing in which the article is always used with the family name is the most formal and learned literary history and the like, such as the ponderous Storia Letteraria d'Italia in thirteen tomes.[40]

It is not unreasonable to presume that during (say) the next fifty years, the construction *il Machiavelli* will be completely replaced by the construction *Machiavelli* without the article, except in the most pedantic works and in certain relatively fixed locutions (*il Petrarca, il Boccaccio*). Within a hundred years, in all probability, the use of the article will appear as obsolete and archaic as do now OIt. *conciossiacosachè* 'although', *eziandio* 'also', and similar expressions.

[39] Especially in the works of such violent and emotional critics as Giovanni Papini, in whose 24 Cervelli (1912) and Stroncature (1916), for example, the definite article is sometimes used with the family name of certain persons, but more often not.

[40] Milano, 1929–35.

INTONATION PATTERNS IN AMERICAN NORWEGIAN

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[American English loan words in the dialect of Norwegian immigrants are provided with one of the two intonation patterns which characterize native words. This paper investigates the distribution of the two patterns in such loan words and formulates the rules of their occurrence.]

It is a familiar fact of Scandinavian linguistics that Norwegian and Swedish are capable of distinguishing otherwise identical words by means of two contrasting tonal patterns. Practically all speakers of Norwegian make a clear distinction between *svalen* 'the hallway' and *svalen* 'the swallow', or *faster* 'aunt' and *faster* 'fasts'; Swedes similarly distinguish *buren* 'the cages' from *buren* 'born', and *anden* 'the duck' from *anden* 'the spirit'. The phonetic quality of this distinction varies greatly within the two countries, but nearly all dialects agree in having two contrasting intonations. In the examples given above, the first of each pair of contrasts has the so-called 'simple' or 'monosyllabic' intonation, the second the 'compound' or 'polysyllabic'. We shall hereafter refer to them respectively as Intonation 1 and Intonation 2.[1]

The first of these is applied to all monosyllables and all words that were monosyllables in Old Norse and a great many foreign loan words that have entered since Old Norse times. The second pertains to practically all words that were polysyllables in Old Norse and some foreign loan words. These facts show that the distinction must go back at least to Old Norse times. But historical change has altered the nature and function of the distinction, so that today its original connection with the number of syllables has been obscured, and the rules for the application of intonation are so intricate that no nonnative can hope to master them in full.

It might be supposed that when the Scandinavians came to America, they would tend to lose so intricate and subtle a distinction in their language. It is true that the musical range of the intonations is markedly affected by American influence, a fact that has been noted by observers fresh from the native land.[2] But the distinction between the two intonations is maintained by the overwhelming majority of the immigrants. It is indeed so ingrained in their speech that one can often hear it in their English. In the schools of Scandinavia even the classics are intoned, and tradition has decreed which Roman words shall

[1] There is an extensive literature on the subject, most of which is listed in N. C. Stalling, Das Phonologische System des Schwedischen I (Nymegen, 1935). Two basic monographs are those of Johan Storm (Om Tonefaldet i de skandinaviske Sprog, Oslo, 1874) and Axel Kock (Die alt- und neuschwedische Accentuirung; Quellen und Forschungen 87, Strassburg, 1901).

[2] Cf. Peter Groth (the first scholarly commentator on American Norwegian) in 1897: 'Persons who have been in America a long time ... acquire a foreign quality in their voices, so that no matter how fluently they speak their native language, one can still hear that it has become a foreign tongue to them.'

have Intonation 1 and which Intonation 2. When a Norwegian utters a sentence of his native tongue, he automatically accompanies every stressed syllable in that sentence with one of two possible intonation curves, which usually extend over a number of the following unstressed syllables. Every accented word has to be sorted into one of two possible compartments with respect to intonation, just as every noun has to have one of three possible genders, and every verb one of a limited number of conjugations.

In the case of Norwegian immigrants to America, it is not surprising that they should extend this feature to the new words acquired from American English. The question then arises: according to what principles are the intonations applied to American words? Are all American words given one intonation, are they distributed between the two, or do they maintain their American intonation? This question has never before been raised or even visualized by students of American Norwegian. Yet it is a question of great linguistic interest, which should throw new light on the function of the Norwegian intonations, as well as on the processes of linguistic adaptation.

The following paper is limited to the material offered by one Norwegian dialect, that of Solør in Eastern Norway, as spoken by Mr. Odin Anderson, of Blair, Wisconsin.[3] Although more extensive researches will be necessary to give a definite answer to this problem, the material of Mr. Anderson's dialect is typical enough to establish certain preliminary conclusions.[4]

An examination of the American words in Mr. Anderson's dialect shows that for the study of intonation they must be divided into: (1) monosyllables; (2) monosyllabic stems with inflectional suffixes; (3) monosyllabic stems with other meaningful suffixes; (4) monosyllabic stems with non-functional suffixes; (5) compounds in which the first element is a monosyllable; (6) compounds in which the first element is a polysyllable; (7) unanalyzed words with stress on the first syllable; (8) unanalyzed words with stress on later syllables. The intonations also play a role in phrasal and syntactic combinations, but this aspect is here omitted.

1. MONOSYLLABLES. As in the original dialect, these are all pronounced with Intonation 1. Hence the English words *pail*, *field*, and *fence* become [ˈpe·l], [ˈfi·l], and [ˈfæns].[5]

2. MONOSYLLABLES WITH INFLECTIONAL SUFFIXES. Those suffixes which have been added to the stem since Early Scandinavian times fail to change the intonation of the word. In the present dialect this includes the suffixed definite article, and the *-er* which marks the neuter plural, the plural of consonant stems, and the present of strong verbs. All other noun, verb, and adjective endings change a monosyllable from Intonation 1 to Intonation 2.

[3] See discussion of his background and linguistic type in LANGUAGE 14.112–3 (1938).

[4] The distribution of intonation in the native Solør dialect has been analyzed in Dr. Amund Larsen's exhaustive monograph on the phonology of that dialect: Lydlæren i den solørske Dialekt, Oslo, 1894.

[5] Intonation 1 is here marked by a single accent mark before the stressed syllable, 2 by a double accent mark. The symbol [ɽ] denotes Midwestern American *r* and the Norwegian 'thick' *l*, which in this dialect appear to be identical.

All American words that have been thoroughly assimilated into the Norwegian dialect acquire the suffixes and with them the intonations of the Norwegian. But the system is simplified because certain classes of the original remain unutilized by the loanwords, which nearly always fall into the most common inflectional class. Solør nouns have three masculine, three feminine, and two neuter declensions, but the loanwords are practically limited to one of each gender. Solør verbs may have three weak conjugations and a variety of strong, but the loanwords have nearly all acquired the forms of the second weak conjugation (Germanic *ō*-verbs). The following paradigms will illustrate the role of intonation patterns among the inflections.

		Norwegian	American
NOUNS			
Masculine			
Singular	Indefinite	[ˈhɛɪst] horse	[ˈpe·l] pail
	Definite	[ˈhɛɪstn̩] the horse	[ˈpe·ln̩] the pail
Plural	Indefinite	[ˈˈhɛɪstər] horses	[ˈˈpe·lər] pails
	Definite	[ˈˈhɛɪsta] the horses	[ˈˈpe·la] the pails
Feminine			
Singular	Indefinite	[ˈsno·r] cord	[ˈfi·l] field
	Definite	[ˈsno·ra] the cord	[ˈfi·la] the field
Plural	Indefinite	[ˈˈsno·rər] cords	[ˈˈfi·lər] fields
	Definite	[ˈˈsno·ṛn̩] the cords	[ˈˈfi·ln̩] the fields
Neuter			
Singular	Indefinite	[ˈhü·s] house	[ˈfæns] fence
	Definite	[ˈhü·sə] the house	[ˈfænsə] the fence
Plural	Indefinite	[ˈhü·sər] houses	[ˈfænsər] fences
	Definite	[ˈhü·sa] the houses	[ˈfænsa] the fences
VERBS			
Infinitive		[ˈˈkastə] throw	[ˈˈfi·də] feed
Present Participle		[ˈˈkastn̩] throwing	[ˈˈfi·dn̩] feeding
Present		[ˈˈkastər] throws	[ˈˈfi·dər] feeds
Preterite		[ˈˈkastə] threw	[ˈˈfi·də] fed
Perfect Participle		[ˈˈkastə] thrown	[ˈˈfi·də] fed
ADJECTIVES			
Singular Masc. and Fem.		[ˈsø·t] sweet	[ˈtɔff] tough
Singular Neuter		[ˈsøtt]	[ˈtɔft]
Plural (also Sing. Weak)		[ˈˈsø·tə]	[ˈˈtɔffə]
Comparative		[ˈˈsø·tərə]	[ˈˈtɔffərə]
Superlative		[ˈˈsø·təstə]	[ˈˈtɔffəstə]

English nouns have sometimes been taken over with the plural *-s*, and the result is a new declension used only for loan words. If the word is felt as a singular, usually collective in significance, it adds the masculine singular article, without intonation change: *tools* [ˈtüls], *the tools* [ˈtülsən]; (*a*) *tack* [ˈtæks], *the tack* or *tacks* [ˈtæksən]. If it is felt as a plural, it adds the neuter plural article,

without intonation change: *the tacks* [ˈtæksa]; *the rails* [ˈɽeɪlsa]; *the screens* [ˈskri·nsa].

A very few monosyllables were heard by the earliest immigrants as dissyllables, and accordingly associated with the weak instead of the strong nouns. The final *n* of *barn* was heard as the second syllable of a weak masculine definite [ˈˈba·ɽn̩]; a new indefinite was created, [ˈˈba·ɽə] on the analogy of [ˈˈha·nn] 'the rooster' : [ˈˈha·nə] 'rooster', and corresponding plurals [ˈˈba·ɽər] 'barns', [ˈˈba·ɽa] 'the barns'. Similarly American *slough* became weak feminine [ˈˈslü·ə], definite [ˈˈslü·a], *jug* [ˈˈjoggə], *whip* [ˈˈhippə].

When inflectional endings were added to words of two or more syllables, they failed to affect the intonation.

3. MONOSYLLABIC STEMS WITH OTHER MEANINGFUL SUFFIXES. On account of the basic kinship of English and Norwegian the two languages possess a number of suffixes which are sufficiently alike in form and function so that ordinary speakers of the language can recognize their equivalence. Unless such equivalence exists, the suffixes are felt as purely phonetic phenomena, and fall into group 4, or the whole word is felt as an unanalyzable unit and falls into group 7. The intonation accordingly becomes a means of detecting the extent to which these analogies have been grasped.

The English suffixes which have been associated with corresponding Norwegian suffixes are *-el* (*-le*), *-en*, *-er*, *-ery*, *-ing*, and *-y*.

When *-el*, *-en* and *-er* are verbal endings, they are regularly associated with the corresponding Norwegian *-le*, *-ne*, and *-re*, and require Intonation 2. Examples are *double* [ˈˈdəbblə], *travel* [ˈˈtravlə], *trouble* [ˈˈtrübblə]; *poison* [ˈˈpɔɪsnə], *straighten* [ˈˈstreɪtnə]; *bother* [ˈˈba·drə], *figure* [ˈˈfiggrə]. They have been joined by *pasture* [ˈˈpastrə].

In two words *-el* has been associated with the Norwegian noun suffix *-ill*: *barrel* [ˈˈbæ·rill], *satchel* [ˈˈsætʃill]. For some unexplained reason they have been joined by *hickory* [ˈˈhekrill]. In a few adjectives *-en* has been associated with the Norwegian adjective ending *-en*, as *common* [ˈˈka·mən], *even* [ˈˈi·vən].

In a large number of words the American *-er* of agency has been associated with corresponding Norwegian endings. Some have been given the most characteristic dialect form *-ar* (as in [ˈˈfiskar] 'fisherman', [ˈˈskri·var] 'writer'): *cutter* [ˈˈkattar], *farmer* [ˈˈfarmar], *hunter* [ˈˈhüntar]. A second group has acquired an excrescent *-t* in imitation of a large number of foreign words in Norwegian, with Intonation 1 (e.g. [ˈtʃikkɐ̀ɽt] 'spy-glass', [ˈpjekkɐ̀ɽt] 'jacket'): *dipper* [ˈdippɐ̀ɽt], *gopher* [ˈgüffɐ̀ɽt], *reaper* [ˈrippɐ̀ɽt], *scraper* [ˈskreɪpɐ̀ɽt]. A third group acquired the slightly bookish *-er* with Intonation 2: *dresser* [ˈˈdressər], *lawyer* [ˈˈlɔjər], *sweater* [ˈˈsvɛɪttər]. A fourth group, the least thoroughly assimilated, retain the *-er* of English, with American *r*, but still intonation 2, to mark the functional value of the suffix: *barber* [ˈˈbaɽbəɽ], *bumper* [ˈˈbampəɽ], *parlor* [ˈˈpaɽləɽ].

The suffixes *-ery* and *-ing* always require Intonation 2 in Norwegian (e.g. [ˈˈba·kəri] 'bakery', [ˈˈlɔttəri] 'lottery'; [ˈˈfɽi·giŋ] 'flying', [ˈˈkviskriŋ] 'whispering'). American loan words follow the same pattern, so that we get *grocery* [ˈˈgrɔssəri],

granary [ˈˈgrø·nri], *buttery* [ˈˈbɔttri]; *backing* [ˈˈbæ·kiŋ], *frosting* [ˈˈfrɔstiŋ], and even *midlings* [ˈˈmelliŋ].

When *-y* is an adjective ending, it is usually associated with the cognate Norwegian *-i* (written *-ig*), with Intonation 2, so that we get: *busy* [ˈˈbissi], *easy* [ˈˈi·si]. In one instance it has been eliminated in favor of a native adjective ending *-ete*: *bumpy* [ˈˈbompətə].

4. MONOSYLLABLES WITH NON-FUNCTIONAL SUFFIXES. Certain common suffixes which occur in both languages have no special meaning. Where these happen to coincide rather closely in sound, an association of pattern may be set up which will determine the intonation.

This is most apparent in the case of the previously mentioned *-el*, *-en*, and *-er*. When these lack the functional values listed in the preceding group, they fall into the large class of Norwegian words with these endings having Intonation 1. This class arose originally from Old Norse non-syllabic final *-l*, *-n*, and *-r* (as in *fugl* 'bird', *vatn* 'water', *ertr* 'peas'). After these had become syllabic, the words still retained Intonation 1 (in Solør dialect [ˈfüggəɻ, ˈvattn̩, ˈæɻtər]). Later, foreign loan words of the same type increased the number: [ˈoŋkəl] 'uncle', [ˈɔrdn̩] 'order', [ˈsokkər] 'sugar'.

A large number of American words have entered this class. Examples are: *bushel* [ˈbüʃʃəl], *stable* [ˈstebbəɻ], *trouble* [ˈtrübbəl]; *bacon* [ˈbeɪkən], *curtain* [ˈkøɻtn̩], *island* [ˈaɪlən] and even *license* [ˈlaɪsən]; *cider* [ˈsaɪdər], *pasture* [ˈpastər], *rubber* [ˈrɔbbər]. Some of the least assimilated words retained American *r*: *aster* [ˈæ·stəɻ], *flavor* [ˈfleɪvəɻ].

The significance of grammatical function is clearly demonstrated in those cases where the same word has been borrowed both in a functional and a non-functional situation. A number of words with these endings can acquire both intonations when they are used in Norwegian. *The pasture* is [ˈpastrə], while *to pasture* is [ˈˈpastrə]; *the trouble* is [ˈtrübblə], while *to trouble* is [ˈˈtrübblə]. Perhaps the most striking instance in our material is the noun *poker*, which is pronounced [ˈpo·kər] when it refers to the game, but [ˈˈpoᵛkəɻ] when it refers to the implement.

The suffix *-et* is a common noun ending in English, with no special function, but it resembles the Norwegian adjective suffix *-et(e)*, with Intonation 2. This may be the reason that words in *-et* have Intonation 2 more frequently than 1. Another explanation is that they may have been associated with a group of foreign loans in Norwegian which originally had the accent on the last syllable, and therefore Intonation 2 when it was shifted forward (see group 8 below). Such words are Solør [ˈˈkɔʃʃət] 'corset', [ˈˈpottit] 'potato', [ˈˈkreddit] 'credit'. American examples are *basket* [ˈˈbæskət], *biscuit* [ˈˈbiskət], *bucket* [ˈˈbɔkkət], *faucet* [ˈˈfæssət], *ticket* [ˈˈtikkit], and many others. They were even joined by the word *mosquito* [ˈˈmiskit]. Words of this type having Intonation 1 are *blanket* [ˈbɾeŋkət], *pilot* [ˈpaɪlət], *toilet* [ˈtɔɪlət], *mortgage* [ˈmɔrgit].

Nouns in *-y* vary similarly between Intonations 1 and 2, and probably belong with the unanalyzed words of group 7. They include early loans, which usually got Intonation 1: *candy* [ˈkendi], *country* [ˈkontri] (but *buggy* [ˈˈbɔggi]), and later loans, which usually got 2: *army* [ˈˈa·ɾmi], *worry* [ˈˈwø·ɾi]. Two words in *-y* were

associated with the Norwegian ending of the weak nouns, accordingly getting Intonation 2: *gravy* [ˈˈgre·və], *shanty* [ˈˈʃantə].

5. COMPOUNDS IN WHICH THE FIRST ELEMENT IS A MONOSYLLABLE. Concerning compounds Amund Larsen says that here 'the analogies are usually concealed, because they cross one another.'[6] This is especially true where the first element is a monosyllable. Here one would expect the whole compound to acquire the Intonation 1 of the first element, but syncopation of intermediate vowels has so completely altered and confused the situation that no general rule is discernible. Larsen simply says that 'certain words, especially those ending in a vowel, create compounds with Intonation 1, while most words create compounds with Intonation 2.'

The conflicting situation in the original dialect is reflected in compounds whose first element is Norwegian: *cow track* [ˈkü·trækk] has Intonation 1, while *ice box* [ˈˈi·sbaks] has 2. A few words have inserted the vowel *-a-* which reflects the genitive of Old Norse, and they invariably have Intonation 2: *fish pole* [ˈˈfiskapo·lə], *wash dish* [ˈˈvaskadiʃʃ].

American monosyllables create compounds with either Intonation 1 or 2 according to principles which cannot now be determined. They usually produce the same intonation in all the compounds into which they enter. Thus *black* produces Int. 1 in *blackbird* [ˈblækkbø·ɽd], *blackboard* [ˈblækkbo·r], *blackberry* [ˈblækkbe·r], while *sauce* produces Int. 2 in *sauce dish* [ˈˈsa·sdiʃʃ] and *sauce can* [ˈˈsa·skannə]. Against this stand words like *bed*, which produces Intonation 1 in *bedspread* [ˈbedspredd], but 2 in *bed room* [ˈˈbeddromm].

Among the less thoroughly assimilated compounds of recent vintage, Intonation 1 is predominant, with examples such as *airmail* [ˈe·ɽmɛɪl], *ashtray* [ˈæ·ʃtɽɛɪ], etc. There is also a scattering of Intonation 2: *hardware* [ˈˈha·ɽdwe·ɽ], *merry-go-round* [ˈˈme·ɽgɽaon], etc. Most of these probably classify with the unanalyzed words of group 7 below.

6. COMPOUNDS IN WHICH THE FIRST ELEMENT IS A POLYSYLLABLE. If the first element of a compound is a polysyllable, its intonation determines the intonation of the whole compound. There are a few exceptions to this rule in the original dialect, but none in the American words.[7] Hence we find examples like the following:

Intonation 1:

bushel [ˈbüʃʃəl] : *bushel basket* [ˈbüʃʃəlbæskət]
soda [ˈso·da] : *soda crackers* [ˈso·dakrækəʃ]
monkey [ˈmoŋki] : *monkey wrench* [ˈmoŋkirɛɪntʃ]

Intonation 2:

hickory [ˈˈhekril] : *hickory nut* [ˈˈhekrilnøtt]
police [ˈˈpolli·s] : *policeman* [ˈˈpolli·smann]
livery [ˈˈlivɽi] : *livery barn* [ˈˈlivɽiba·ɽə]

[6] Lydlæren 45.
[7] Cf. Ivar Alnæs, Norsk Uttale-Ordbok 33 (Oslo, 1925).

For this reason simple intonation is given to words like *whiffle tree* [ˈhippəltre·] and *angelfood cake* [ˈɛɪndʒəlfo·dke·k], even though the first parts of these compounds do not occur separately in the dialect. Two such compounds show that forms sometimes arise quite different from what might be expected. *Fanning mill* ought to have Intonation 2, but its Norwegian form has exchanged the *-ing* for *-i* and acquired Intonation 1: [fæ·nimøllə]. Conversely *gunny sack* has acquired *-ing* and therefore Intonation 2: [ˈˈgɔ·niŋsækk].

7. UNANALYZED WORDS WITH STRESS ON THE FIRST SYLLABLE. Words in which no part of the word betrays a clear relationship to other words are difficult to class, and there is no obvious analogy for their treatment. In the original dialect most of these are either foreign loans, with Intonation 1, or syncopated compounds, with Intonation 2: [ˈda·to] date, [ˈpastor] pastor; [ˈˈi·køün] 'squirrel', [ˈˈna·bo] 'neighbor'.[8]

The American words are rather evenly divided between Intonation 1 and 2, and the fact that various dialects differ considerably on the treatment of these words shows that the analogies have here been weak. In the material of this dialect the words with Intonation 1 are predominantly words with light secondary syllables, while those with 2 tend in some degree to have more significant syllables after the main one. All words ending in [-əs] (except *business, office, service*), *-is, -els, -erd, -ers, -age, -ment*, and *-o* (except *depot*) have Intonation 1, e.g. *circus* [ˈsørkis], *dishes* [ˈdiʃʃəs], *crackers* [ˈkrækkəʃ], *basement* [ˈbɛɪsmənt], *silo* [ˈsaɪlo]. Dissylables that correspond to trisyllabic verbs have Intonation 2: *harvest* [ˈˈharvist] m., [ˈˈharvistə] v. Words with long vowels in the second syllable have Intonation 2: *abstract* [ˈˈæ·bstɽæ·kt], *concrete* [ˈˈka·ŋkɽi·t]. But no rule can explain why e.g. *apricot* [ˈæ·pɽikat] should have 1, *acrobat* [ˈˈæ·kɽobæ·t] 2. Particularly in the case of the trisyllables, however, the great majority of these words are unassimilated in the dialect and of such occasional use that one cannot expect them to have established clearcut patterns of usage.

8. UNANALYZED WORDS WITH STRESS ON LATER SYLLABLES THAN THE FIRST. The dialect, in true Germanic fashion, does not tolerate words with the stress on any other syllable than the first, except very occasionally. A great many such words have been taken in from other languages, notably French, and have invariably had their accent moved forward. All of these have acquired Intonation 2, apparently as a reminiscence of the stress that once rested on the last syllable. (Intonation 2 gives an effect of weak secondary stress on the last syllable.) Examples of such words in the Norwegian dialect are [ˈˈhottell] 'hotel', [ˈˈmaʃʃi·n] 'machine', [ˈˈakkʃo·n] 'auction', [ˈˈnɑttü·r] 'nature'.[9]

That this process is a living one in the dialect is attested by its almost universal application to the American loan words. Examples are: *bouquet* [ˈˈbokkɛɪ], *divide* [ˈˈdivvaɪdə], *July* [ˈˈjü·laɪ], *mosquito* [ˈˈmiskit], *saloon* [ˈˈsallo·n], *survey* [ˈˈsavve·rə], *molasses* [ˈˈmallassəs], *recommendation* [ˈˈɽekamənderʃən].

When the first syllable of such words was an unstressed [ə], it was sometimes dropped; this probably took place first in the speech of American neighbors. The resulting intonation was as if this syllable had not existed: *accordion* (pro-

[8] Cf. Larsen 42–6.

[9] Cf. Larsen 41 bottom.

nounced in common American [kɔr'din]) became ['kɔɽdin], but *election* became ['lekkʃən] because of the ending *-en*.

A small number of very recent loans in the original dialect retain the stress on a later syllable than the first, and this is also true of the least assimilated American words. Just as the Solør dialect has [be'standi] 'always', so the American dialect has taken up *detective* [di'tektiv] and *protection* [pɽo'tekʃən] and a few others with their original stress, and always with Intonation 1.

If we now look back over these groups of words, it becomes apparent that Norwegian intonations are correlated to a number of different factors.

(1) The number of syllables in the word. As in Old Norse, all monosyllables retain Intonation 1. All words of three or more syllables in which the first two syllables have a separate existence receive their intonation from these two syllables. The first two syllables are crucial: they set the pattern for the rest of the word.

(2) The position of stress. If the stress is not on the first syllable in the American word, the dialect usually forces it forward and gives the word Intonation 2; if the stress remains on a later syllable than the first, the word must get Intonation 1.

(3) Grammatical function. If the second syllable of a dissyllable is a Norwegian inflectional suffix, the word acquires the intonation of words having that suffix. Certain other suffixes also have this power of controlling intonation, if the analogy between the American and the Norwegian suffixes is sufficiently close.

(4) Phonetic pattern. Dissyllables may be associated with word classes in the original having a similar ending, even though these have no grammatical function.

(5) Unknown or uncertain factors. In compounds with a monosyllabic first element, and in unanalyzed polysyllables there appear to be no clearcut analogies, and a consequent vacillation of usage.

A striking fact that appears from this summary is the importance of the second syllable. This is phonetically understandable, and agrees with the observation of Borgstrøm: 'Die Höhe des Gipfels wird nur im Verhältnis zu den *folgenden* unbetonten Silben gemessen. . . .'[10] The pattern of a Norwegian intonation curve requires two syllables for its full extension. The first syllable contains the dynamic stress and the significant part of the tone curve. But before the first syllable is begun, the speaker must be aware whether there is going to be a second syllable and in which direction the tone curve is to go. Once this is known, the extension of the tone curve over three, four, five, or a practically unlimited number of syllables after the second is unimportant. Hence the second syllable acts as a steering syllable in the matter of intonation. This is what gives the intonation a certain role in the grammatical and phonetic pattern. When the second syllable has no special association with Norwegian equivalents (as in compounds with monosyllabic first elements and in unanalyzed words), the intonation is uncertain and apparently unattached.

[10] Norsk Tidsskrift for Sprogvidenskab 9.261 (1938).

This material gives us also some insight into the linguistic assimilation of the Norwegian immigrant. It shows the unconscious struggles of humble speakers to adapt American material to the habitual categories of their native tongue. We see the increasing simplification of categories that goes on during such adaptation. Only in those cases where the dialect shows universal and functionally active uses of the intonations, are these systematically applied to the new material. Otherwise there is vacillation and uncertainty, with a tendency toward elimination of the tonal distinction in favor of the American pattern.

MISCELLANEA

MODERN IRISH *atá sé déanta agam* 'I HAVE DONE IT'

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[This idiom was explained by Zimmer as a preterite passive (passé indéfini) which secondarily acquired active meaning. He confined his investigation to the spoken dialects and appears to have been misled by French grammatical categories. In fact the meaning is present and active, and the phrase is a blend of two uses of the verb 'to be' which date from the Old Irish period. It may be as early as the 13th century.]

My purpose is to correct an article by Heinrich Zimmer, ZCP 3.61, which is still cited as authoritative, and to present briefly the history, and discuss the meaning, of a familiar Modern Irish idiom.

Zimmer discusses the construction *tá sé déanta agam* at great length. *Tá sé déanta* 'it is done' is explained (84) as a Mod.Ir. preterite passive to supplement the preterite passive *rinneadh é* 'it was done'. He seems to have been misled by French grammatical categories, for he equates the latter with the French past definite, and the former with the past indefinite. *Tá mé buailte* 'I am beaten', is then rendered in German 'ich bin geschlagen worden' (84), the formation being attributed to the Modern Irish period. He supplies full collections from material dating within the previous ten years (65). But it has since been shown by Ó Máille (Verbs of Existence, Ériu 6.73) that the substantive verb was construed with the past participle already in the Old Irish period, e.g. *amal nombemmis érchóilti* 'as though we were destined' Wb. 9 a 3, *ó robatar ind liss dúntai* 'since the ramparts were closed' Imram Brain §1. It is not a passive, and does not fit into the conjugation at all. The participle is an adjective, and the verb 'to be' is the main verb, not an auxiliary. It is a resultant present. Zimmer points to a difference of tense between *glantar é* 'he is cleansed' and *tá sé glanta* 'he is cleansed' (85), but the difference is not one of tense, but of aspect, cf. English 'it is done every day' and 'it is done already'. This has been made clear by Mme. Sjoestedt-Jonval, Déscription d'un parler irlandais de Kerry 152–5, where the former is called Present I and the latter Present III. She further observes that in Modern Irish there is no passive voice (121). *Tá mé buailte*, then, to return to Zimmer's example, is not preterite, and it is not passive. It is the present indicative of the verb 'to be', with a verbal adjective as predicate: not *ich bin geschlagen worden*, but *ich bin geschlagen*.

Zimmer proceeds to discuss the idiom *tá sé déanta agam*. It is wrongly explained, and partly misunderstood. He regards the addition of *agam* 'apud me' as due merely to the need to supply an agent to the passive form, i.e. 'it was done by me'. The active value, which he admits, would be secondary, and due to the influence of *tá sé agam* 'est mihi, I have it'. This last construction would have no influence on the form, but only on the meaning (90).

In fact the development was the other way round. We have seen that already in the Old Irish period the substantive verb 'to be' can be construed with a past

participle, i.e. the type *tá sé déanta*. It is well known that Irish possesses no verb 'to have', and uses the form 'est mihi, est apud me'. This construction appears also in the Old Irish period: *buí cú oca* 'erat canis apud eum, he had a dog' (IT 1.96.1), *baí acum . . . cóeca ingen* 'erant apud me quinquaginta filiae, I had fifty handmaids' (IT 1.225.17). It appears with a predicative adjective about 1200 A.D.: *atá urlumh acumsa* 'est paratum apud me, I have it ready' (AS 756), and the way is clear to **atá dénta acum* 'I have it done, I have done it'. When this step was taken I cannot now say, but it may well be as early as the 13th century. The preposition *oc* was already in use to express the agent with a verb in the passive: *rogabad aice Timmotius* 'Timothy was seized by him' (PH 290), *dorónta lestair gloine immda aice-sium* 'many glass vessels were made by him' (265; further exx. in Glossary s.v. *oc*), and this may have favored the new construction. But it is built on the Irish equivalent of the verb 'to have', and parallel to Lat. *habeō factum*, Gk. γεγραμμένον ἔχω. Vendryes, while citing Zimmer's article, rightly explains the idiom (Sur l'emploi de l'auxiliaire 'avoir' pour marquer le passé, Mélanges van Ginneken 88).

The question remains as to the possibility of Latin influence. The prevailing opinion is that Irish has not been much influenced by Latin, since Irish prose was already developed in the native law-tracts and sagas before translations from Latin were made (Thurneysen, ZCP 18.428; Sjoestedt-Jonval, Études Celtiques 3.385). However, the language of the medieval translations from Latin has been little studied. Many of them appear to date from the 11th and 12th centuries (Sommerfelt, RC 36.23, 38.39).

There is in Modern Irish another means of describing a state resulting from completed action, where the action is in the immediate past: *táim tar éis é do dhéanamh* 'I am after doing it' = 'I have just done it' (cf. Welsh *yr wyf wedi ei weld ef* 'I have seen it'). In Anglo-Irish speech the idiom is common, and it is liable to be misunderstood by strangers. If you find in stage-Irish such phrases as *Will you be after asking him? Would you be after thinking?* they are as far from Anglo-Irish usage as *Will you have just asked him? Would you have just thought?* from English.

It is curious that in so many languages the resultant aspect merges again and again in the narrative preterite. Vendryes points out that in French, German, and Rumanian this has happened to the periphrastic form. The Old Irish perfect did become a preterite in Middle Irish, but the more recent periphrastic form has preserved its true value, as it has in English; and a new immediate perfect, = 'je viens de le faire', has developed as well.

PORTUGUESE -(*da*)*doso*

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Mr. J. H. D. Allen Jr. states in the summary of his article (LANG. 16.157): 'Two hitherto neglected VL forms are adduced as evidence that the haplology usually assumed in the development of this ending must have taken place, if at all, in the VL period or earlier, not in OPt., as has been believed.' The VL forms in question are *caritōsus* and *pietōsus*, attested by Du Cange; the theory

which Mr. Allen attacks he attributes to Williams, From Latin to Portuguese §114, and to Grammont, Traité de Phonétique 336, who furnish him with his list of Portuguese forms (*caridoso, piedoso, idoso* 'very old', *cuidoso* 'attentive, careful' beside *cuidadoso* 'careful', *humildoso, ruindoso,* etc.).

However, the haplology theory really goes back to Carolina Michaëlis de Vasconcellos, Revista Lusitana 11.43, in an article entitled *Idoso* (*edioso*)—e mais casos de haplologia. The article lists such interesting cases as *curgidoso* 'vulgarismo de *curgidade* por curiosodade'; the following article (11.44, cited in REW s.v. *aetas*) treats of *ediano, adiano* = **aet[āt]-ānus.* If a theory of Latin haplology is to be advanced, the classical witness is *calamitōsus* for *calamitātōsus* in Cato; cf. Leumann in the 5th edition of Stolz-Schmalz, Lat. Gr. 231.[1]

Moreover, Du Cange's texts are not identical with 'Vulgar Latin', as the author seems to assume; they are better termed Neolatin texts. Surely the examples under *pietōsus* dated by Du Cange 1372 and 1474 cannot be adduced as evidence from Vulgar Latin. Mr. Allen has failed to date the Vita S. Drausii (of a bishop of Soissons), the B.N. Ms. Lat. 10272 also quoted under *pietōsus,* and the Vita Hidulfi, Du Cange's only witness for *caritōsus.*

For my part I need not take the trouble to date these texts, as there are other, much older examples of Latin *caritōsus* to be found; Mr. Allen has not quoted the item *charitōsus* of the ThLL. This, while it supports his pre-Portuguese theory by showing the age of the formation, suggests at the same time the necessity of modifying it. According to this dictionary, *charitōsus* is amply attested in inscriptions and in glossaries, as a translation of εὐχάριστος and perhaps, if a *cariōsus* is corrected to *caritōsus,* as an equivalent of *iūcundus, dēlectābilis*; in inscriptions are also found the proper names *C(h)aritōsus, C(h)aritōsa,* both of which the ThLL derives from Gk. χάρις, itself attested in Latin. (The ThLL, s.v. *charis,* shows the variants *carite, charite* in a Passio Theclae de caritate Christi; Fulgentius says, *carin graece gratiam dicimus.*) Since *cāritās* 'amor, dilectio, affectus' (one of the theological virtues, 'Christian love, charity', along with *fidēs* and *spēs*) showed phonetic and semantic similarity to Gk. χάρις 'grace, beauty; affection, favor; benefit',[2] a hybrid Latin

[1] Meillet and Ernout, on the contrary, reject the haplologic explanation and suppose a direct formation after *perīculōsus, ventōsus.* If this be true, the explanation given in the text (**caritātōsus* = χαριτ + *-ōsus*) would suffice. F. J. Cooper, Word Formation in the Roman sermo plebeius 122, points out that the *-ōsus* derivatives are most frequent in scriptores rerum rusticarum, e.g. in Cato.

[2] Gillis P:son Wetter, Charis 14 ff. (Leipzig, 1913), points out that in Philo and in Greek documents of the Roman emperors χάρις (also the plural χάριτες) does not mean a favorable disposition of mind, but an ACT of favor, benefit (e.g. χάριτες is coupled with εὐεργεσίαι); he translates St. Paul's δικαιούμενοι δωρεὰν τῇ αὐτοῦ χάριτι διὰ τῆς ἀπολυτρώσεως τῆς ἐν Χριστῷ Ἰησοῦ as 'alle werden umsonst gerechtfertigt durch seine Gnade(ntat) vermöge der Erlösung in Jesus Christus'—this Pauline conception of the χάρις being not a Jewish but a Greek word-use in accordance with the conception of the sovereign's grace as opposed to the Jewish idea of ἔλεος 'the pity of God': 'χάρις drückt ein positives Gefühl von Liebe, Wohlwollen aus, das sich in einer wirklichen Tat Gottes, in einer Handlung äussert. ... Es ist ein Akt der königlichen Gnade Gottes, dass er uns in diesen Stand der Gerechtigkeit versetzt.' This active 'grace' is akin to *cāritās,* whereas the passive enduement of man with the divine grace was translated by *grātia.*

formation χαριτ-ōsus could very well have made the impression of a **carit-ōsus* (from *cārus* or *cāritās*) meaning not only 'agreeable, pleasant' but also 'bounteous, charitable'. The spellings *charitas, charus* in ecclesiastical writers point to a phonetic hybridism following the general hybridism of the early church language, in which Rheinfelder, Kultsprache und Profansprache, correctly saw a conflict in the early Christian authors between Grecism and purism;[3] cf. also the remark of Isidorus, Orig. 8.2.6: 'caritas graece, latine dilectio interpretatur', where *caritas* clearly appears as a Greek word.[4]

In view of these facts it seems rather artificial to separate the proper names *Caritōsus, Caretōsa* (derived, according to the ThLL, from *caritas*, which also appears as a proper name of women) from the proper names *Charitōsus, Charitōsa* (= *charis*, also used as a woman's name, along with *Charistōsa* [evidently χάριστος + -ōsa], *Charitiōsus*, etc.): it is impossible to tell where the boundaries between the two word families are to be drawn.

Thus Pt. *caridoso*, OSp. *caridoso* (attested, contrary to Mr. Allen's observation, by the Dict. of the Acad.), OIt. *caritoso* (in Jacopone da Todi), OFr. *chariteus* (12th cent.), and OProv. *caritos* 'charitable' (quoted by FEW s.v. *caritas*, not mentioned by Mr. Allen) all are forms of the one farthest-spread learned word *caritōsus*. This, through its impact on religious life, became the leader of a new series of word formations. *Pietōsus* necessarily followed, coined on the pattern *caritōsus* : *cāritās*, since *pietās*, like *cāritās*, means 'love, piety'[5] (Rheinfelder, Lbl. f. germ. u. rom. Phil. 51.359). Then may have followed *humildoso, bondoso, cuidoso* (this last, according to C. Michaëlis in Bernardim Ribeiro, means 'besorgt, beeifert' in contrast to *cuidadoso* 'sorgenvoll, sorgfältig', and is thus the more enthusiastic word); next, adjectives expressing virtues and their contraries (*maldoso, ruindoso*); still later, *habilidoso* (the learned form is indicative of late formation), *soidoso*, and *curgidoso*.

[3] He comments (51–2): 'Tertullian verwendet z.B. für den Begriff der christlichen Liebe das Wort *agape*. Die bekannten lateinischen Ausdrücke schienen ihm allzu profan zu sein [note: De oratione 28 (CSEL 20,199). De baptismo 9 (CSEL 20,208). Ad Martyres 2 (Oehler I 8)]. Das Wort hat sich auch für die Liebesmahlzeiten der Christen eingebürgert und in diesem Sinne länger erhalten. Für die Gottes- und Nächstenliebe aber setzte sich *agape* nicht durch. Man bevorzugte das Wort *caritas*, das in der liturgischen Sprache ganz allgemein wurde [note: Vgl. I. Kor. 13 nach der Vulgata!]. Im späteren Mittelalter verlor das Wort *amor* seinen heidnischen Klang und wurde auch dort verwendet, wo man tausend Jahre vorher nur *caritas* hätte leiden mögen [note: Vgl. z. B. Imitatio Christi, lib. III, cap. 5].'

[4] Perhaps a contamination of *cāritās* with Greek words derived from the same root, like χαρίζομαι 'dono, gratificor, munero'; χαριστήριον 'donarium, donativum, donum' (cf. CGlL), could explain an OCat. *caristiós* 'caro, costoso' (*aquest temple de Deu en la ciutat de Hierusalem axí sumptuós y axí caristiós y bell*), Mod. Prov. *caristié* 'amour, amitié', and Mod.Fr. *caristade* 'aumône', FEW s.v. *caritas*, no. 2 (this last surely of southern origin)—unless we prefer to see in all of them *carestía* 'dearth', which von Wartburg suggests for the latter form. On *carestía* cf. LANG. 14.144–5.

[5] Cf. the parallelism of semantic development of Fr. *charité* (*caristade*) and Prov. *pi(a)tansa* 'alms' (REW s.v. *pietas*), and of *pietās* used of clerics (*pietas nostra* says an abbot; see Du Cange s.v. *pietas*) and Sp. *caridad* used in the same way (St. Theresa, cf. Roman, Chilenismos 1.267), as in St. Augustine's *charitas vestra* (Chr. Mohrmann, Die altchristliche Sondersprache in den Sermones des hl. Augustin 1.53).

Since, then, the leader word *caritōsus*, the importance of which is due to its ecclesiastical background, is not to be explained by haplology, the haplology theory is superfluous for the rearguard of *-doso* coinages.[6]

GENITIVE FORMS WITHOUT *-s* IN EARLY NEW HIGH GERMAN

SOPHIE SHAPIRO, CHICAGO

In Early New High German texts there are occasional genitive singular forms of strong masculine and neuter nouns without the *-es* or *-s* ending. These forms were doubtless common in the spoken language of this period and natural to the authors; they slipped in beside the forms with *-es*, which were traditional in writing. They are very frequent after stems ending in a sibilant, but occur also after other stems; the nature of the preceding word (whether definite or indefinite article, adjective, etc.) does not affect their occurrence. Their appearance seems not to be governed by any system.

How did these new forms arise? During the period in which we find them, a large group of masculine nouns was shifting from the weak to the strong declension. The declension of a weak masculine is exactly like that of strong masculines ending in *-en* except for the nominative and genitive singular:

	Strong	Weak
Singular nom.	*degen*	MHG *grabe*
Singular gen.	*degens*	*graben*
All other forms	*degen*	*graben*

[6] I do not see how *humilde* could be an extraction from *humildad*, since *-ad* is not a productive suffix: one finds no **ruinde* from *ruindade, ruindoso*. *Humilde* must be a post-verbal adjective (with *-e* like Sp. *alegre, firme, libre, ruín*) from a verb **humildar* = *humilitāre* (a late verb attested in Amm. Marc. and Augustine), perhaps surviving in OSp. *omildança* (Menéndez Pidal, Cantar de Myo Cid I and II); cf. *ondrar* : *ondrança* (ibid.). The explanation of the replacement of the Latin adjective *humilis* by a semi-participle must be the same as in the case of *amargo* in place of **amaro*, from *amargar* = **amāricāre*; cf. Stilstudien 1.77. Ptg. *impidoso* cannot come from **impedit-ōsus*, the perfect participle + *-ōsus* (which would still be haplological: **imped[id]oso*), but is formed directly from the verb (*impedir*), like Sp. *resbaloso, guardoso* (Hanssen, loc.cit.), Ptg. *abduroso*, It. *rincrescioso*, Rum. *lunecos*, and Lat. *bibōsus*, censured by Nigidius in Gellius (Cooper, loc.cit. 124). Ptg. *soidoso* is not better explained by the substantive *soidom* + *-ōsus*: if we do not start from *sōlitās* : **sōlitōsus* (after **caritōsus*), the model *ambitiōsus* (*ambitiō,-ōnis*) seems closer.

The fact that Spanish, too, has such formations—*piadoso, habildoso; bondoso* beside *bondadoso* (as Mr. Allen states); *caridoso* (see above); *maldoso* beside *maldadoso; amistoso* (borrowed from OProv. *amistos* = **amīcitās* + *-ōsus*); *vanidoso* (corresponding to Ptg. *vaidoso*) and *dioso* 'de muchos días' (originally *idoso* = **aet[āt]-ōsus*); *humildoso* (attested, in spite of Mr. Allen's denial, by Hanssen, Gram. hist. 344; cf. Oudin: *humildoso* 'plein d'humilité')—shows that very much the same development must have taken place in Spanish as in Portuguese, only that in more recent times the type *cuidadoso, bondadoso* seems to prevail, perhaps because of the intervention of grammarians. (However, while *caridoso, humildoso, maldoso* were dropped, in these cases along with the variants in *-adoso*, the forms *piadoso, vanidoso, amistoso, habilitoso* persist.) Thus, quantitatively speaking, the type is only slightly less well represented in Spanish than in Portuguese.

By forming a new nominative in *-en* and a new genitive with *-ens*, MHG weak masculines denoting inanimate objects entered the strong declension. Thus from the 14th to the 16th century there was a group of about one hundred nouns with two genitive singular forms: the older genitive, with apparently no ending, and the new genitive with *-s*, which gradually replaced the other.[1]

The existence of this group of nouns led to analogic formation of doublet forms in the genitive singular of other nouns. If the genitive singular of *grabe(n)* was *graben* or *grabens*, then, by analogy, the genitive singular of *degen* might be *degen* or *degens*. An example indicative of such a confusion is *der Orden*. I have noted three occurrences of this word in the genitive singular in Murner's Narrenbeschwörung.[2] Two of these forms lack the *-s* ending, one has it. The forms without *-s* occur at the end of lines and rhyme with *worden*. Murner would not have invented a new genitive form in order to get a rhyme. Both *orden* and *ordens* must have existed in the spoken language of the time, and Murner used the form which was most convenient to his purpose as he wrote. Molz notes a genitive singular *orden* in Murner's Schelmenzunft.[3] Luther uses both genitive forms of the neuter *das Gewissen*, in one and the same sermon twice as *gewissen*, five times as *gewissens*.[4] In other writings of Luther I have collected four more occurrences of the genitive singular *gewissen*.

There are other indications of a confusion between strong nouns in *-en* and the weak *n*-stem nouns. Weak masculines denoting living beings have remained weak in standard German; the weak masculines which entered the strong declension were names of inanimate objects. Yet, beginning in the 15th century, weak masculines denoting living beings show genitive singular forms in *-ens*, thus *des Knabens, Löwens*. These forms were recognized by many grammarians.[5]

The following condition then existed:

	Weak	Weak or strong	Strong
Gen. Sg.	*knaben* (*knabens*)	*graben* or *grabens*	*ordens* (*orden*)

The forms in parentheses appeared in the spoken and written language for a while and then went out of use in standard German. During the 17th century the genitive in *-ens* for weak masculines denoting living beings was generally accepted as correct and occurred frequently. Gottsched identified it as grammatically incorrect and was instrumental in stopping its use.[6] However, it had gained much wider currency than the genitive without an ending for strong

[1] H. Molz, Die Substantivflexion seit mittelhochdeutscher Zeit, PBB 27.269 ff. (1902).

[2] Thomas Murner, Narrenbeschwörung, ed. M. Spanier (Berlin, 1926): *Orden* chapter 6, line 116; 25.4. *Ordens* 25.31.

[3] Molz, PBB 27.269.

[4] Ein Sermon von dem Sakrament der Busse, in Luthers Werke in Auswahl, ed. O. Clemen, 1.174 ff. (Berlin, 1929): *Gewissen* 176, line 38; 181.31. *Gewissens* 176.30; 176.32; 179.38; 181.31; 182.14.

[5] M. H. Jellinek, Geschichte der neuhochdeutschen Grammatik 2.223 ff. (Heidelberg, 1914). Molz, PBB 27.337.

[6] J. C. Gottsched, Vollständige und neuerläuterte deutsche sprachkunst[4] 239 (Leipzig, 1757). I have not been able to see any editions before the fourth.

nouns in *-en*. The reason for this is easily seen. The *-s* or *-es* ending for the genitive singular was the rule for all strong nouns. The nouns which were shifting to the strong declension showed forms in *-ens* with increasing frequency, while forms in *-en* became rare. Naturally, an irregular genitive in *-ens* could more easily be formed (and pass as correct) than an irregular form in *-en*.

The effect of the shifting group of masculines on strong nouns in *-en* may have extended beyond the genitive singular. We find nominative singular forms like *wag* for the strong masculine *wagen*;[7] Molz quotes several such forms.[8] Here, the shifting group of masculines seems to have affected the nominative case of strong nouns in *-en*. Hentschel, whose grammar appeared in 1729, put *Degen, Degens* in the same paradigm with *Fürst, Fürstens*.[9] Moser suggests that the influence of the masculine nouns which had shifted from a weak to a strong declension prevented nouns in *-en* and *-em* from developing plurals with umlaut.[10] The scope of such an influence could not have been great, because the original number of nouns in *-en* was very small. Of the ten which could take umlaut, four have umlaut-plurals in standard German.

It is quite clear, however, that the shifting group of masculines occasioned the appearance of genitive singular forms without an ending, first for strong masculine nouns ending in *-en*, and then for strong neuters of this kind. From such nouns, genitive forms without an ending spread to other strong masculine and neuter nouns.

I have found genitive singular forms without *-es* or *-s* for 63 nouns, other than those ending in a sibilant. The table shows the distribution of these nouns according to the stem ending. The first column of figures gives the number of nouns of each ending which occur without *-s*. As some nouns occur more than once in this genitive form, the second column lists the number of occurrences for each stem-ending. The third and fourth columns indicate the number of masculines and of neuters among these nouns. Note that under nouns ending in *-n*, all words ending in *-lein* (*buschlein, wortlein*) have been counted together as a single noun.[11]

[7] O. Hertel, Die Sprache Luthers im Sermon von den guten Werken, ZfDP 29.489 (1897).

[8] Molz, PBB 27.268.

[9] M. H. Jellinek, Gesch. d. nhd. Grammatik 2.227.

[10] V. Moser, Historisch-grammatische Einführung in die frühneuhochdeutschen Schriftdialekte 174 (Halle, 1909).

[11] The examples have been collected from the following books and articles. (Those examples which I have been unable to check in their original source, either because of an incomplete reference or because I was not able to see the book, are indicated by a * before the title.) W. W. Florer, The Declension of Substantives in the Zerbster Handschrift, PMLA 26.604–623 (1911); C. G. Franke, Grundzüge der Schriftsprache Luthers (Görlitz, 1888), with examples from *Altes Testament, *An den Christlichen Adel deutscher Nation, *Von der Freyheyt einisz Christen Menschen; J. Kehrein, Grammatik der deutschen Sprache des fünfzehnten bis siebzehnten Jahrhunderts, vols. 1, 3. (Leipzig, 1863), with examples from Zehn Gedichte Michael Beheims [Kehrein inaccurately quotes *böswicht* as occurring in 9.614; this should read 9.604], *Die s.g. vierte Bibelübersetzung, *Kirchen- und religiöse Lieder aus dem zwölften bis fünfzehnten Jahrhundert, D. C. Lohenstein's Cleopatra, M. Luther's Die gantze Heilige Schrift, Die geuerlichkeiten und eins teils der geschichte des ... Ritters her Tewrdannckhs; H. Kiefer, Der Ersatz des adnominalen Genitivs

Ending	Number of nouns	Number of occurrences	Masc.	Neut.
-t	16	19	9	7
-en	13	29	3	10
-er	11	14	11	0
-n	7	8	4	3
-el	6	7	4	2
-ch, -g, -ck	6	7	5	1
-m	2	2	2	0
-f	1	1	1	0
vowel	1	1	0	1
Total	63	88	39	24

The three stem endings, other than a sibilant, which appear most often in the genitive singular without *-s* or *-es* are *-t*, *-en*, and *-er*. In 4 of the 16 nouns ending in *-t* (3 occurring once, one twice) an *s*-sound precedes the *t*: these nouns are, perhaps, better classified with those ending in a sibilant. The group of stems ending in *-er* which shows genitive forms without *-s* suggests another way in which genitive singular forms without an ending may have started. The old genitive form for the consonant stems *vater* and *bruder* was the same as the nominative singular. A new genitive with *-s* began to replace this older form at a very early time. During the 14th century both forms are present in the documents; during the 15th century occasional old genitive forms appear; and Brant and Murner, who use both forms, indicate that the older genitive still existed in the 16th century.[12] All but two of the examples in *-er* (each occurring once) are names of persons, thus supporting the possibility of an influence from *vater* and *bruder*.

The examples of nouns in *-en* show a much greater number of neuters than of masculines. The original number of strong masculines in *-en* was very small—

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im Deutschen (Giessen diss., Leipzig, 1910), with examples from *Codex Teplensis, J. Fischart's Geschichtklitterung, H. J. Grimmelshausen's Der abenteuerliche Simplicissimus, H. Korner's Chronik des Lübecker Dominikaners Hermann Korner, Luther's Deutsche Briefe, J. Pauli's Schimp und Ernst, Thüringische Chronik des Johannes Rothe, *E. Windecke's Denkwürdigkeiten zur Geschichte des Zeitalters Kaiser Sigmunds, Till Eulenspiegel; H. Molz, Die Substantivflexion seit mittelhochdeutscher Zeit, PBB 27.209–312 (1902), with examples from Augsburg Chronik, *Murner's Schelmenzunft, Urkunden bei Chmel, *Urkunden in Weizsäckers Reichstagsacten.

J. Kehrein quotes *mins leben gezämen* from Liederbuch der Clara Hätzlerin, ed. Dr. E. Haltaus 2.60.166 (Quedlinburg u. Leipzig, 1840). The line he is referring to is 2.2.232 and the text reads *lebens*. The mistake arises from the incorrect entry under *gezämen* on page 326 of the Wörterbuch of this edition of C. Hätzlerin's Liederbuch.

I have read and found examples in the following: S. Brant, Narrenschiff, ed. F. Zarncke (Leipzig, 1854); A. von Eyb, Das Ehebüchlein, ed. M. Herrmann (Berlin, 1890); A. Götze, Frühneuhochdeutsches Lesebuch[2] (Göttingen, 1925), with examples from Kursächsische Kanzlei, *Leipziger Kleiderordnung, M. Montanus' Wegkhürtzer, *C. Schappeler's Verantwortung, *B. Springer's Merfart, H. Wopfner's Quellen zur Geschichte des Bauernkriegs in Deutsch-tirol; Luters Werke in Auswahl, ed. O. Clemen, 1.10–14, 148–322 (Berlin, 1929); T. Murner, Narrenbeschwörung, ed. M. Spanier (Berlin, 1926).

[12] Molz, PBB 27.260.

only thirteen.[13] I have not included any of the masculines which were originally weak.

The number of examples of genitive singular forms of strong masculine and neuter nouns without the *-es* or *-s* ending is naturally not large. We may suppose that the grammatical rules of correctness would operate against their appearance in written or printed material. The examples do indicate, however, that genitive forms without an ending were present in the spoken language of the time. We cannot judge how wide a currency they had.

Ain't I AND *Aren't I*

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[The various actualizations, in contemporary British and American dialects, of the [ɛ] and [r] phonemes of 18th-century English may indicate a common origin for the forms *Ain't I?* and *Aren't I?* and reasons for the disappearance of both forms from approved usage.]

1. In standard English the negative paradigm of the verb *to be* has two weak or contracted developments in the present tense:[1] Type I with subject-verb sandhi and full stress of the negative particle *not* [nat]; Type II with stressed subject and sandhi of the verb and the negative particle, which appears as a non-syllabic morpheme [-nt] except in the third person singular *isn't* [ˈizənt]. Except for purely prosodic interrogation, indicated only by a final rising pitch, Type I is not used to ask a question; it has a full paradigm with the forms [ˈajm ˈnat, ˈwijr ˈnat, ˈjuwr ˈnat, ˈhijz ˈnat, ˈðejr ˈnat]; it is apparently the more formal type. Type II, the more common, is used either declaratively [ˈwij ˈarnt] or interrogatively [ˈarnt ˌwij], but in both declarative and interrogative varieties the paradigm is defective, there being forms [ˈwij ˈarnt, ˈjuw ˈarnt, ˈhij ˈizənt, ˈðej ˈarnt],[2] but in no type of so-called 'correct' Standard English a form for the first person singular. In other dialects of English, however, there are two such forms, one of the type [ˈaj ˈejnt], the other of the type [ˈaj ˈarnt], interrogatively [ˈejnt ˌaj] and [ˈarnt ˌaj] respectively.

2. It is likely that an examination of dictionaries, grammars, and other records will throw some light on the social standing of these forms in the past. That problem may be left to the historian of English. Dialect geography may reveal a common origin of the two forms, and reasons for their lack of prestige.

3. The evidence may be found in the development, in different dialect-areas, of the phonetic combinations [arC] and [ɛnC].[3] These developments may be stated as follows:

In certain dialects (A), [r] was retained in the combination [arC]; in other dialects (B), [r] in such a combination became actualized only as a shwa-glide

[13] Molz 264.

[1] I wish to thank Professor Leonard Bloomfield for his criticism of the manuscript, and for his many pertinent suggestions.

[2] Of course, in many dialects the [r] in these forms is actualized as a shwa-glide, vocalic length, or zero. But for the general pattern it must be transcribed as a development of the [r] phoneme.

[3] Here [ɛ] represents a vowel of the type found today in English *hat*, [a] a vowel of the type found in *father*, and [C] any stop, spirant, affricate, or cluster.

[aəC] or as length [a:C]. A is represented chiefly by Central-Western American; B by British Received Standard, the dialect of Eastern New England, and most of the Southern American dialects.

In certain dialects (C), [ɛ] in the combination [ɛnC] is lowered to a vowel of the type [a]; in others (D), [ɛ] in this same combination is raised and diphthongized to a vowel of the type [ɛj], or even [ej] (in some Southern American dialects, *can't* appears as [kejnt][4]). Of the C type are British Received Standard, the dialects of Eastern New England, and the coastal dialects of Southern American; of the D type are Central-Western American and, more markedly, the Piedmont dialects of Southern American and many of the dialects of the South-Central states. In various Piedmont dialects [ɛj] now appears as a distinct phoneme, rather than as a positional variant of [ɛ].[5]

On the basis of these two developments it is thus necessary to make three dialectal groupings, which will be referred to as groups A-D, B-D, and B-C.

4. In British and American literature of the 18th and early 19th centuries, the Type II contraction of the 1st sg. present negative of the verb *to be* is often orthographically represented as *I a'n't*. Such a spelling does not constitute satisfactory evidence for the pronunciation of the contracted form at that time, but it does indicate a contraction of *am not* with the first nasal assimilated to the second and probably a vowel originally like that of *am*. At any rate, the later development, as we shall see, points to such a vowel.

5. The development of the contracted form, Type II, may thus be summarized as follows:

In dialects of the C type, earlier [ˈaj ˈɛnt, ˈɛnt ˌaj] became [ˈaj ˈant, ˈant ˌaj]. In dialects of the D type they became [ˈaj ˈɛjnt, ˈɛjnt ˌaj] and then [ˈaj ˈejnt, ˈejnt ˌaj]. The extent of the latter form may be explained on two grounds: (1) the existence of two forms, *ant* and *aunt*, which became [ɛjnt] in D dialects,[6] and (2) the lack of retarding influence from a standard written form of the contraction.

While this change was taking place, dialects of the A type were retaining forms of the type [ˈwij ˈarnt], while in dialects of the B type the [r] became actualized as a shwa-glide or length, giving the type [ˈwij ˈa:nt]. Therefore the negative paradigm would normally have three typical forms, as follows:

Dialects A-D	Dialects B-D	Dialects B-C
[ˈaj ˈejnt]	[ˈaj ˈejnt]	[ˈaj ˈant]
[ˈwij ˈarnt]	[ˈwij ˈa:nt]	[ˈwij ˈa:nt]

Since the [a] phoneme in dialects of the B-C group is characteristically a long vowel before [-n] clusters, the distinction of length ceased to operate in these

[4] In Houma, Louisiana, I have heard *aunt* as [ejnt]. Dr. Samuel McNeely states that this is the standard form in Baton Rouge.

[5] This phenomenon of an [ɛj] phoneme distinct from [ɛ] and [ej] has been noted independently by Mr. J. B. MacMillan for Central Alabama, by Mr. J. W. Watson Jr. for Blacksburg, Virginia, and in my own study of the dialect of Greenville, South Carolina. It probably occurs elsewhere.

[6] The appearance of *aunt* as [ejnt] in Louisiana confirms, rather than contradicts, the general theory.

dialects, giving a paradigm [ˈaj ˈant, ˈwij ˈant]. Furthermore, since the two forms were pronounced alike, and one of them, [ˈaj ˈant], had no established orthographic representation, the spelling characterizing the three forms [ˈwij ˈant, ˈjuw ˈant, ˈðej ˈant] was adopted, so that in dialects of the B-C group [ˈaj ˈant] became conventionally written as *I aren't*.

Since the B-C group of dialects (British Received Standard, Eastern New England, and the coastal or 'plantation' dialects of the Old South) enjoyed greater social prestige than either of the other groups, their forms became the norm for social elegance. In the B-D group the adoption of the form [ˈaj ˈant] with the spelling *I aren't*, may be explained as dialect borrowing; in the A-D type the development of the new [r] in [ˈaj ˈarnt] may be explained by a simple proportion:

$$[ˈwij\ ˈant] : [ˈwij\ ˈarnt] = [ˈaj\ ˈant] : x$$

6. It remains to explain the present social disfavor of both the [ˈaj ˈejnt] and the [ˈaj ˈarnt] forms. As it has been suggested, [ˈaj ˈejnt] probably lost favor because of the spread of the socially privileged form [ˈaj ˈant]. The decline in the prestige of [ˈaj ˈant, ˈaj ˈarnt] forms is probably due to the influence of a pseudo-logical attitude, which objected on orthographical premises to a form *I aren't* as the negative of *I am*.[7]

7. In summary, both [ˈaj ˈejnt] and [ˈaj ˈant] represent normal phonological developments in different dialect areas. The social prestige of the dialects in which the latter was the normal form is responsible for the odium of vulgarity attached to the former, and the influence of normative grammar and pseudo-logic completed the work of depriving Standard English of one of the inherited forms of the negative paradigm of the verb *to be*.

IDEALS AND IDEALISTS

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A writer in LANGUAGE 16.350 attributes to me the belief that 'the world of science is an ideal world'. Of course it does not matter much what any one person has said or has not said. In this instance, however, some confusion may arise, because I have recently devoted a sixty-page essay to telling why, along with many other workers in science, I hold such statements to be nonsensical and dangerous. The essay is entitled Linguistic Aspects of Science and was published by the University of Chicago Press as No. 1.4 of the International Encyclopedia of Unified Science.

[7] The feeling, at least in A-D and B-D dialects, that [ˈaj ˈant] is an affectation, probably contributed to the current disfavor.

REVIEWS

GRAMMATA SERICA: SCRIPT AND PHONETICS IN CHINESE AND SINO-JAPANESE. By BERNHARD KARLGREN. Pp. 471. Stockholm, 1940.

This publication first came out as a somewhat lengthy article in No. 12 of the Bulletin of the Museum of Far Eastern Antiquities, forming in fact 471 of the 504 pages of that issue. Reprinted separately, it appears in the form of a good-sized book. There are 123 pages of descriptive matter and tables, followed by a dictionary of nearly ten thousand characters, arranged by phonetics and in the order of Archaic rime classes. It is the world première, so to speak, of a dictionary that systematically gives Archaic readings, and as such will be welcomed by non-specialists, who may often be interested in the Archaic forms but who would hesitate to go through all the recent articles on the subject in order to find out where Karlgren stands on the pronunciation of such and such a word or rime. The inclusion of a limited number of bone and bronze inscriptions in such a dictionary is also a welcome feature to those who would like to see the study of old graphs put on a linguistic footing. In the descriptive part there is an introduction on methodology. Then follows an exposition of the evolution from Archaic (early Chou) to Ancient (Suei[1]-T'ang) Chinese. Next comes a restatement, in greater detail than in his Analytic dictionary (Paris, 1923[2]), of the evolution from Ancient Chinese to Mandarin; and after this, a systematic statement of the relationship between Ancient Chinese and Sino-Japanese. A list of riming words in Shī king is added, given in both Mandarin and Archaic pronunciation, arranged in the order in which the rimes occur. Finally, tables of references for inscriptions are given to which the main body of the dictionary refers, so that it is always possible to check up on the exact place from which a graph is quoted.[3] This work is on the whole so useful and will probably be used so much that I think it can with impunity stand a good deal of fault-finding, to which I shall now proceed.

First, some remarks on general method. Karlgren has a bold method of reconstruction of Archaic Chinese in the use of what he calls 'projections', as first presented in his article On the script of the Chou Dynasty, BMFEA 8 (1936). Briefly, it is this. Karlgren identifies (with some reservations) the language as revealed in the Shī king rimes with the language of the phonetic loan characters (both hie sheng, or phonetic compounds, and kia tsie, or phonetic loans proper) and regards both as belonging to one comparatively homogeneous language of Royal Chou. From this, it is possible to reconstruct under certain conditions the Archaic pronunciation of words which occur in pre-Han texts but do not occur in Shī king. 'This happens: 1) when they have a phonetic

[1] For present purposes, I am using Karlgren's modified 'Wade' and writing Suei, Shī king, etc., instead of Sui, Shih ching, etc., so that the reader will not have to shift gears, so to speak, between the book and its review.

[2] Karlgren mentions (11) 'my Analytic dictionary of Chinese (1926).' He must have been mistaken about the date of his own book.

[3] This is in fact what led me, with the help of Mr. Fang Chao-ying of the Library of Congress, to discover the identity of the missing bronze form on 132, line 1.

the place of which in the Shī king rime system is known; and 2) when at the same time their Suei time projection (the reading in the Ancient Chinese of Ts'ie yün) is such as regularly belongs to words of the said Shī king category, and we can therefore see that the word is "regular" belonging to Royal Chou Chinese, and not, by any irregularity in the Ts'ie yün reading (falling outside the range of what this Shī king rime category should give in Ancient Chinese), reveals itself as an Archaic dialect word diverging from the language of Royal Chou.' Karlgren goes on immediately to observe that these 'are general principles only, and are not necessarily conclusive in every case.' For very common characters occurring in a whole series of pre-Han texts, he considers this kind of reconstructions quite safe. For less common characters, he considers the reconstruction of Archaic reading from the projections only potentially true. He meant, according to the introduction, to put in parentheses all such cases occurring in the dictionary, but owing to typographical difficulty had to omit the parentheses. I have quoted his exposition of this method at some length, as it is quite crucial for the validity of the most important part of this work: the actual reconstruction forms of thousands of words, the majority of which, be it noted, are only 'potentially true'. This is in fact the old problem of induction again. From the point of view of formal logic, all induction involves the fallacy of the undistributed middle term. Since one cannot always be sure whether any particular word not occurring in Shī king did or did not actually exist in Royal Chou, nor if it did exist whether the graph (as to phonetic) was actually used in Chou or was a Han invention, we are always left in the air with regard to this middle term. From the regularity of the results, Karlgren concludes that he is being over-cautious with his numerous (intended) parentheses. The reader may judge for himself how far he wishes to go along. One can perhaps say here as elsewhere, nothing risked, nothing gained.

The assumption of homogeneity, both for Archaic and for Ancient Chinese, is one on which most Chinese scholars would express dissent. Perhaps discussions of homogeneity would become less unfruitful if we agreed to take up only particular features of divergence or agreement. Karlgren's statement that Archaic and Ancient Chinese are two homogeneous dialects is more controversy-provoking than what he actually believes. For he does recognize and mention the places where divergencies exist. The abundance of alternate readings for words in rising and falling tones with voiced initials obviously indicates dialectal differences in Ancient Chinese. Since no two dictionaries of even modern Mandarin agree, we can expect still less homogeneity in a reconstruction. When we try to pin it down—e.g. as to the exact place and date of the postulated change *ɟəi* > *ɟěi*—it dodges; the process is like trying to focus with a lens which has chromatic, spherical, and all kinds of aberrations. The important practical question is not whether we can get a picture of Leica qualities, but whether there is enough relative homogeneity in the two stages to warrant the arrangement in presenting the materials in the dictionary in the form of Ar./An./Mand., and whether we can significantly talk about Archaic and Ancient forms without too much vagueness or hypostatization. I think the majority of readers of the book will probably answer in the affirmative.

On the graphical side, Karlgren has become ultra-conservative. A comparison between the present dictionary with his Analytic Dictionary will show that a great many quotations from Shuo wen have been changed into 'explanation of graph uncertain', a phrase occurring so frequently that it might well call for a special symbol like E.G.U. In many cases, to be sure, to say less is to give better information. One would wish that he had made more extensive use of recent inscriptional material and given or quoted more interpretations, with qualification if necessary.

Taking up now the special sections, we find an excellent exposition of the change from Archaic Chinese to Ancient Chinese. The system of initials is practically the same as given in the Analytic Dictionary. The finals are arranged into 26 classes. Since these classes agree pretty closely with those of Wang Nien-sun, Kiang Yu-kao, etc., a fact which Karlgren acknowledges in his previous articles, a Chinese reader would welcome the addition of the familiar Chinese names of these classes, parallel to the Chinese names of the rimes given for Ancient Chinese. A good feature, which adds to the strength of the whole structure, is the exhibition of similar changes occurring under similar phonetic conditions though under different rime classes. The system of finals still has a few tight places. The series of vowels *ŏ, o, ǫ̂, ô, ŭ, u* represents pretty fine distinctions. To be sure, mere fineness of distinction is in itself never a fatal objection. But such difficulties as that **i̯ŭng, *i̯ŭk, *i̯ŭg* rarely rime with **ŭng, *ŭk, *ŭg* respectively,[4] or that **məg > mi̯u* and **mwəg > muâi*, but **b'əg > b'âi*,[5] still need ironing out. The dictionary has many more initial consonant clusters than before, such as *p'l, ml, t'l, sn, sl, śl, źn, k's, xm, ngl*, etc. But these are still mostly postulated ad hoc and far from being systematic, and are consequently less dependable. No reference to these is made in the explanatory section.

This being the first time that Archaic forms have been fully spelt out on a large scale, some parts must still be regarded as stop-gaps. Thus as neither the phonetics nor the Shī king rimes give us much information concerning medials, they have been worked out more according to internal consistency than by direct evidence as to their phonetic nature. The practically total adoption for Archaic Chinese of the Ancient scheme of *i* and *i̯* leads to no contradictions and is all right to that extent, but one cannot help speculating on other possible Archaic values of these elements. Since the initial clusters, as cited above, have been thrown in rather informally as need arises, might not some of the medials still have existed as consonants, e.g. 筆 *plət*, instead of *pli̯ət*?

A radical simplification is possible, I think, in the treatment of the glottal stop. Karlgren's method assumes that since Ancient Chinese had a glottal stop, and since there is no reason why Archaic Chinese should have no glottal stop, it had one, just as Archaic *pli̯ət* was to have an *i̯* if Ancient Chinese had an *i̯*. Now an initial glottal stop may be either significant or non-significant. In most modern dialects in which it occurs it is non-significant, just as in German.

[4] Li Fang-kuei, Archaic Chinese **-i̯wəng, *-i̯wək* and **-i̯wəg*, Bulletin of Institute of History and Philology, Academia Sinica 5.65.

[5] Ibid. 72-3.

But in the dialect of T'aishan, Kwangtung, *iem* 'to loathe' (Mandarin yen) is different from *ʻiem* 'shop' (Mandarin tien), the latter having a significant glottal stop corresponding to unaspirated *t*. Now in Ancient Chinese, *ʻi̯äm* was also significantly different from *i̯äm* or *ji̯äm*. But as *i̯-* or *j-* in all words came from Archaic *b* (?), *d*, *z*, and *g*, all words in Archaic Chinese without an initial oral consonant began with a glottal stop, if they ever did. The only reason for which Karlgren gives words with Ancient glottal stop also an Archaic glottal stop is that in the absence of evidence it would be simpler not to postulate a change. But now we see that if the glottal stop ever existed, it only occupied a place in the language as it does in German—it may have been pronounced, but it did not have to be. So in transcribing Archaic Chinese, it seems that we can write the initial glottal stop, but do not have to.

For Ancient Chinese, usually based on Ts'ie yün, Karlgren has stolen a march on Lo Ch'ang-p'ei by first making use of Lu Te-ming's King tien shī wen, whose fan ts'ie I know Lo has been working on for some years but on which he has not yet published his results. The use of this work, almost contemporary with Ts'ie yün, and representing about the same dialect, is an important new feature, as it strengthens the projection method of reconstruction in many places by furnishing corroborating material where Ts'ie yün projections may be questionable.

The descriptive part which traces the change from Ancient Chinese to Mandarin is much clearer and more detailed than the corresponding exposition in the Analytic Dictionary, where it is only in the form of a brief general description. Here the conditions under which changes, especially divergent changes, took place are much more explicitly explained. More detailed exhibition of the stages from Ancient to modern Chinese is also illuminating, though the device of inserting enough stages to resolve (to borrow an optical term) a conflict could sometimes be carried too far. It should however be noted that even the present 20-page exposition still falls far short of being the kind of legalistic statement of sound changes and their conditions that one finds in the dialect tables for initials (but not finals) in his Phonologie chinoise. In the Phonologie, a fixed list of 3125 characters was the subject matter of reference. If there are exceptions to a rule, they are exhaustively listed, so that each and every one of the rest is sure to follow the rule. In the present work, the description ceases to be directly usable as soon as the word 'or' occurs, as in the statement that in the even tone, Ancient *ź* changed into *tʂ'* or *ʂ*, for nothing short of an exhaustive list of all words concerned will tell which are *tʂ'* and which *ʂ*. This does not mean that the book is in any way defective; it simply shows how long a job it would be to give a complete statement of rules of conversion between Ancient Chinese and Mandarin.

A few points of detail in this section. The treatment (48) of Ancient supradentals (retroflexes) *tʂ*, *tʂ'*, *dʐ'*, *ʂ* before Pekinese *ə* as changing into dentals is much too simplified; the actual cases are much more irregular. Examples are given (50) of Ancient *i*, *jwi*, etc. changing into modern *i*, *(u)ei*; for labials, the words 皮, 碑 are cited, which happen to be modern *p'i*, *pei* respectively. As a matter of fact, the Ancient distinction of rounded and unrounded medials for

labial words is extremely uncertain and inconsistent and its connection with modern *i* and *(u)ei* is quite flimsy. This pair of favorable examples is hardly a fair sample. There are some cases of apparent complication in sound change which are really not inherent in the nature of the change but rather a reflection of the peculiarities of the Wade system. Thus (50) the change *tuâ* > *to* seems to involve a dropping of *u*. As a matter of fact, modern *o* and *ə* being one phoneme, *to* is phonemically *tuə*, and it is not a dropping of *u*, but rather addition of *u*, that has occurred in cases like *tâ* > *t(u)o*. The whole discussion (60) of Ancient *tśi̯wät* > *tşuä* monophthongized into *tşo* (cho) but with *u* 'still there' in *śi̯wät* > *şuo* (shuo) amounts to little more than a description of a very peculiar and inconsistent feature of the Wade orthography. No statement of change from Ancient to modern Chinese can of course be complete without mentioning the change of bilabials into dentilabials. The condition for this change is given by Karlgren as the occurrence of both the yod (*j*) and *w* in the medial. But as there are exceptions, such as *pi̯wɒng* > *ping* while *pi̯wɒn* > *fan*, Karlgren is forced to call the latter primary *w* and the former secondary or 'false' *w*, 'which was evidently less forcible, more volatile.' As there is nothing in the fan ts'ie or any other source of Ancient Chinese to tell us which of the *w*'s were true and which were false[6] except from what happened afterwards, we are back where we started: bilabials became dentilabials in cases where they became dentilabials.

From the appearence of Sino-Japanese in the subtitle, one would expect a presentation of Sino-Japanese forms in the body of the dictionary, as in the Analytic Dictionary. As a matter of fact, all that the book has to do with Sino-Japanese is limited to this general description. Since the dialect of Canton was considered important enough to be entered in full in the Analytic Dictionary, it might have been a good idea here if the book had included a similar brief section on a couple of other important foreign or native dialects. Thus, a reference to Sino-Japanese *te-u* (*chō*) for Ancient *tieu* 'bird', Manadrin *niao* (417) is much less direct than a reference to Wu dialect colloquial *tiao* or *tio* would be. There is a very important and excellent discussion (71–2) on changes in phonological categories as distinguished from changes in phonetic values. The topic is in fact of such general importance for all comparative study that it deserves a much more prominent place, such as in the introduction, than in this incidental chapter. Ancient Wu and Sino-Japanese could then be cited as illustrations. In this connection, I might cite the modern Wu dialect of Ch'angshu, Kiangsu, which has *əng* for Ancient *ậm*, *ən*, *əng* alike, but not for Ancient *âm*, thus representing one of the dialects from which Go-on had drawn the pronunciation *ton* for Ancient *t'ậm*. A few matters of detail may be mentioned. The change *puân* > *han* is given (65) as an example of dropping of medial in Sino-Japanese. Since the Ts'ie yün fragments point to *pân* for such words, a much clearer example would be one of the type of *kuân* > *kan*. Karlgren speaks (66) of the 'now universally accepted romanization system.' For the sake of unambiguity in these days of *ramazi* versus *romaji*, it would perhaps be clearer

[6] We do have evidence that some cases of rounding are secondary, but as none of these cases has medial *i̯*, they have nothing to do with the present problem.

simply to call it the Hepburnian system. In the phonetic discussion on p. 67, the *h* before *u* is considered to be a bilabial [ɸ] while the other cases are still given as *ha, he, hi, ho.* Since Japanese *u* is not rounded but only narrowed and with little lingual articulation, *hu* will exactly amount to that, just as *hi* tends to be [çi]. In other words, when we take a narrow phonetic point of view, both *hi* and *hu* are peculiar, whereas if only the phoneme is considered, it is all one *h.*

The main body of the dictionary is arranged in the order of the 26 classes of Archaic rimes. Each phonetic series is numbered consecutively from 1 to 1260. Within each series, the characters are numbered as a, b, c, etc., adding a′, b′, c′, etc. when there are more than 26 in one series of co-phonetic characters. The first one is always the modern or k'ai shu form of the phonetic, as 可, followed by its old graphs according to the inscriptions. Then follows a phonetic compound, such as 河, with its old graphs, if any, so that it often takes more than one of the numbering letters to cover what is commonly regarded as 'one word.' Thus, while there are 9856 characters in all, there are only 7617 words by this counting. For typographical reasons, about four rows of 16 characters are printed together in a line cut, which is then followed by notes with corresponding numbered and lettered headings. For instance, the note referring to the first three characters, which are one word, is as follows:

> **1 a—c.** **ka/k'a*/k'o—T can, able, may (Shī), suitable (Chuang), b. is Chou II/IV (inscription 301), c. is Chou III/IV (inscr. 324). Explanation of graph uncertain.

Here the readings are Archaic/Ancient/Mandarin, T stands for Ts'ie yün, and II, III, etc. for periods in the Chou Dynasty. For the convenience of the user, a more symmetrically tabulated arrangement like that in the Analytic Dictionary would be much handier. This would no doubt take much more space, and the cost of setting the inscriptional graphs against each item would probably be quite prohibitive. I wish however that the grouping or characters in one cut had been planned in such a way as to minimize, if not eliminate, the turning of pages in relating the notes to the characters. As it is, one has to turn the page back and forth for about one third of all the characters. The main entry of the characters is often simply the k'ai shu, or modern form, if there has been no change in fundamental structure in the character. Since however many users of this dictionary may not be good judges as to whether there has been any change in structure, it might perhaps be of some help for the reader to add occasional small seal forms. For instance, it is not at all obvious to the general student, without seeing the seal characters, that 臾 (261) should be a part of 貴 and form its phonetic. Karlgren admits (450, No. 490a) the necessity of this in principle when he is obliged to explain in words that in 卒, 'the small seal has 衣 garment, with a stroke on the skirt.'

The omission of all tones seems to be a step backward from the Analytic Dictionary. While the tone system of Archaic Chinese cannot be known definitely, although our knowledge of it is not quite zero, it is a pity that all tonal data have been discarded except occasional reference to the 'surdization law'. I should think that it would involve no great added trouble to include all tonal

information, at least whenever it is relevant; thus No. 48a–b (138) 舍 has several glosses with different tones, in one of which it is also written as No. 48c 捨. As it stands, the information is not clear and the reference under 48c 'cf. the preceding' could be made much more specific by referring to tones. Again, in giving the characters 左, 佐 Nos. 5a–d, and e (127–8), what can be more important than the fact that a changed tone in the latter goes with some sort of causative use of the former?—and yet the tonal information is missing. No. 727g–i (313) 戕 **dz'iang/dz'iang*/ts'iang is given as if nothing were happening. But that the modern ts'iang is irregularly in tone 1 instead of tone 2 is noted as of special phonetic significance by Karlgren himself.[7]

As noted in the concluding remarks, cognate words are only occasionally noted, such as 嘉賀賀 (130) and 化吪訛 (131), and are not presented in a complete, systematic way. While it is unnecessary to encumber the book by mentioning very obvious cognates such as 耡鋤 (38) or 太泰 (207), it seems that one could have advantageously multiplied the mentioning of safe cognates such as 妻 : 齊 **ts'iər* : **dz'iər* (276), and 帆 : 風 **b'i̯wăm* : **pi̯um* (285), which are not at all obvious to the student. More frequent use of the symbol s. w. a. (same word as) would have been welcome.

The glosses are necessarily brief in a work of this kind. They are arranged in the chronological order of the works in which they occur. It should be remembered of course that the senses are not necessarily in the primary and derived order, as it is quite possible for Shī king to use a word in an extended sense while in the place referred to in a later work, say Kuo yü, the word may be used in a primary sense. A most healthy quality in the glosses is the complete absence of the word 'hence' between senses. If the extension is not clear, the word is not safe; if it is clear, it is unnecessary.

At the end of the dictionary is a radical index of 1301 characters from which the other characters can easily be found. As explained on p. 460, those characters are left out which are obviously and easily divided into one radical and one phonetic and which at the same time have a phonetic that is a well-known character current in texts. This effects a saving of space, but unfortunately it more or less defeats the purpose of a radical index. For in such an arrangement, it is precisely those characters whose radicals are most difficult to classify that are entered in the radical index. For instance, in looking up 詭, it would be much easier to look under 言 than under 先. Since the saving of space is only about 27 pages in a book of 471, a complete radical index would be worth the space. On the other hand, much space could perhaps be saved from simplifying certain very frequent phrases. For example, 'Shuowen says . . . , but there are no text examples whatever in support of this' might be abbreviated to something like 'SW . . . but no text.'

A few errors of fact may be mentioned. These are only isolated cases of oversight and do not affect the rest of the book.

'Pekinese has only about 420 different syllables; and in order to reach that

[7] Some Turkish transcriptions in the light of irregular aspirates in Mandarin, Ts'ai Yüan-p'ei anniversary volume of Bulletin of Institute of History and Philology, Academia Sinica 1933.316 (Peiping).

figure, we have to take into account also the tones (musical accent) and count t'an¹, t'an², t'an³, and t'an⁴ as four different syllables' (14). As a matter of fact, 420 is the number of syllables not counting different tones. If the different t'an's are counted as four, the resulting total will be around 1,300.

Nos. 972h and j, 祠 and 詞, modern sï (383); Nos. 1094a and c, 囚 and 泅, modern siu (412). As a matter of fact, these should be ts'ï and ts'iu respectively. The rule on page 47 says that Ancient 'z became *ts'* or *s* in even tone, *s* in oblique tones,' and these are cases where *z* in even tones became *ts'* rather than *s*. The Analytic Dictionary has these forms right except that it also includes an obsolete reading *s-* for 1094. But 972 words never have *s*. Note that 辭, No. 968 (382), which is etymologically the same word as No. 972j, is correctly given as ts'ï. In this connection we find another instance where tone data would be relevant. No. 1190a 松 *zi̯wong*/sung (440) is not marked irregular because tone is not marked, although it is actually 1 instead of the theoretical 2, and because Ancient *z* in the even tone does become sometimes modern *ts'* and sometimes modern *s*. But in view of a number of dialect readings of this word as ts'ung (other than Cantonese, in which all cases of Anc. *z* have become affricates and are therefore not significant), there is strong suspicion that it would be so pronounced in Mandarin if it had come from *z*. Hence a note would be called for on the irregularity of the reading sung even though tonal irregularity is as a rule not considered.

The character 殷 (79, line 7) is given as *·i̯ĕn*, under rime chen 眞. This character, as well as its co-phonetic 慇, should be *·i̯ən*, under rime hin 欣, for which rime the old name was in fact yin 殷 itself. This error obviously came from K'ang hsi dictionary, which misquoted T'ang yün as giving 於身切 for the character in question. It appears first in Phonologie chinoise 174 and 783, then in Analytic Dictionary 105, then here; but in the dictionary of the present work, No. 448a–d (237), it is correctly given as *·i̯ən*. It is interesting to note that Karlgren was never completely fooled on this point to start with. As early as in the Phonologie 784 he astutely suspected, on dialectal evidence, that this word should be in the rime hin in the face of (wrong) printed evidence to the contrary.

Finally, I share with several other critics of the book a feeling that it has not much new after all, either of theory or of data. Theory of the Archaic system stands just about as before. There are few new data or new etymologies. But perhaps we have no right to expect such a reference work to consist entirely of new material. It is news enough to find bones and bronzes lying peacefully between the same covers with Archaic reconstructions all spelt out. To the general student, it would be a most handy thing to have on the shelf behind him. As for me, though I am expected to know Archaic Chinese backwards, I still need a copy of Grammata Serica on my desk.

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STORIA DELLA LINGUA DI ROMA. By GIACOMO DEVOTO. (Istituto di Studi Romani, Storia di Roma 23.) Pp. [x +] 429, with 15 plates. Bologna: Licinio Cappelli Editore, 1940.

In an appendix (371–81) the author defines his viewpoint in compiling this history of the Latin language. His treatment is philologic rather than linguistic. He admits the necessity for a purely linguistic methodology in studying the prehistoric period of IE; but he insists that a language within history, such as Latin, should be discussed as an interplay of technical expression, literary usage, current usage, and expressivity.

Devoto stresses the relative conservatism and therefore occasional unity among themselves of the so-called marginal IE languages: Italic, Celtic, Tocharian, and Indo-Iranian, as opposed to the more innovating central IE dialects (17–25). He is rather unenthusiastic about an Italo-Celtic grouping independent of this (31–2). Substratum influence from the Mediterranean tongues is admitted without dissent: the occasional interchange of Latin voiced and voiceless stops, interchange of *o* and *u*, and a tendency to initial accent are ascribed to this. Vocabulary borrowing from Aegean sources is given full attention (40–69). Devoto follows the opinion that the Latin accent was musical, and that it was maintained as such until the late Silver Age (98, 286–7). He repeats the explanation which he first suggested in 1923 that such a weakening of the interior vowel as in *agricola* < *agrocola* is another manifestation of iambic shortening (110, 216).[1]

In the discussion of literary influence on language just previous to Plautus, Devoto passes rather hastily over the importance of Livius Andronicus as an innovator (126 ff.). In his definition of Classical Latin he postulates no wide gulf between this and the urbanitas or spoken Latin of Rome in the Golden Age (148–50, 174–5): the literary language of the first century B.C. is the same as that spoken by the best Romans except that affective and expressive elements were undoubtedly present in daily speech, as opposed to rhetorical and poetic devices in the written tongue.

Devoto avoids all use of the term Vulgar Latin, preferring Pre-romance Latin (393) when necessary; but for the most part he contents himself with the expression Latin of the Empire (275–307). Here again Devoto is very favorable to substratum influence (302–7). In this section of the book he has brought together interesting examples from various Vulgar Latin sources which should be particularly useful to romanists. There is also a chapter on the Christian writers (309–41) in which it is shown that, aside from special Christian terminology, the Christians also can be divided, as are the pagan writers, into the two classes of those who wrote an archaizing Latin and those who followed more popular tendencies. In a final chapter (343–68) the author takes us through the Middle Ages to modern times. Here he opposes the thesis of H. F. Muller, insisting as he does that the 'expressive aspect of the Romance languages existed from the eighth century on' (346). The book closes with a very excellent critical bibliography (383–97) and ample indices. This bibliography is a joy; there are few worthy books omitted, although one cannot always agree with the judgments given. Kent's The Sounds of Latin is included; the Italian translation of C. H. Grandgent's Introduction to Vulgar Latin is mentioned,

[1] Adattamento e distinzione nella fonetica latina 60 f. (Florence, 1923).

but somewhat adversely. The simplicity and easy teachability of this manual has seldom appealed to scholars abroad. And yet the orderliness of Grandgent's exposition, as it appears to English readers, is a quality which we find lacking in European competitors. For instance, this book of Devoto's could have been improved by less diffusion of treatment. Devoto is aware in his bibliography of the studies on Patristic Latin from the Catholic University of America, but he does not cite the Vulgar Latin studies which have been prepared in recent years under the direction of H. F. Muller.

The dependence of Devoto upon Meillet's school at Paris is evident throughout. (See especially the Avertenza and 384.) As the reviewer shares many of these same opinions he cannot quarrel with Devoto on the major part of his material. In fact, the book is thought-provoking and a treasure house of useful examples. It is possible to pick out small points of difference. For instance, Devoto does not clarify effectively the development of the future tense in late Latin from the weakening of an aspect of necessity. It is evident that in the celebrated passage from Fredegarius which he cites (341)—*ille respondebat Non dabo, Iustinianus dicebat Daras*—we do not have to do with a *dare habes* > *daras* meaning 'you will give' but with a meaning 'you must give'. Again, the author says (297) that Raetia was immune to the loss of final *s* and then speaks of traces of final *s* remaining in a few points in northern Italy. Such points are not pure Italian-speaking. As the reference which Devoto cites has occasion to remark, this occurs within the area of Raetian influence.

The reviewer would like to give a concrete example of how such a book as this can be thought-provoking to Romance linguists. On 82–6 Devoto is discussing Sabine influence in early Latin: among the examples are such types as *Clausus* beside *Claudius*, *basus* beside *badius*. This reminds one of a condition on the Iberian peninsula where *-dį-*, normally resulting in a yod, occasionally results in a sibilant: Portuguese *goço* < *gaudiu*, *ouço* < *audio*, *perço* < *perdio*, but *raio* < *radiu*, *hoje* < *hodie*, etc. We might even add to this the strange case of Spanish *gozo* < *gaudiu* where we should expect **goyo*.[2] Another Sabinism in Latin, as Devoto says, is the tendency to interchange *d* and *l*. This tendency is rather abnormally present in the Iberian region: Port. *deijar*, Catalan *deixar*, Span. *dejar* from *laxare*; Span. *melezena* < *medicina*, *amidón* < *amilón*, etc. We cannot go into an elaborate statement here, but the reader is tempted to ask himself whether the Latin that was carried to Spain in the third century B.C. did not possess certain Sabine tendencies which were not countered as effectively as they were later in Italy. Particularly as Devoto calls our attention to the fact that another such peculiarity is *haba* for *faba*, *hebris* for *febris*, and so on. This looks tempting in the face of the dispute over the origins of Spanish initial *h* for *f* as in *hazer* < *fazer*.

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[2] It is doubtful that the double treatment of the yod in Catalan, as in *mitj* < *mediu*, *oig* [oiʃ] < *audio*, is to be considered here, since the yod from sources other than *-dį-* is also involved.

L'ASPECT VERBAL ET L'EMPLOI DES PRÉVERBS EN GREC, PARTICULIÈREMENT EN ATTIQUE. By J. BRUNEL. (Collection linguistique publiée par la Société de Linguistique de Paris 45.) Pp. 296. Paris: Librairie C. Klincksieck, 1939.

This detailed analysis by Brunel is the result of the suggestion, made by Meillet for Latin and then applied to Greek, that the use of a prefix lends determinate, not aoristic aspect to the verb. Brunel classifies the shades of difference in aspect caused by composition and shows the relation of the classes to determinate aspect, that aspect which has in view the end of the action. He uses simplex and compound from the same author or from the same passage when possible. Some very fine distinctions are drawn.

Prefixes make verbs conative, transitive, ingressive, or intensive, or lend to verbs what might be called metaphorical meaning. Prefixes in these cases have lent to the verb something of determinate aspect. Pure determinate aspect is rare; it is in unstable equilibrium, is relative to an indeterminate aspect, and is capable of being weakened to a point where it becomes difficult to identify. Determinate aspect indicated by reduplication or by suffix (except aorist passive) is earlier than that indicated by prefix, for example *μίμνω* : *ἐπιμένω*.

It is impossible in the space of this review to present either the arguments necessary for an understanding of the more difficult of the approximately 700 examples given by Brunel, or the objections which could be made to some of them.

Psychologically, says Brunel, determinate aspect appears as follows:

1. In compound verbs the simplex of which describes a condition. The compound either suggests a definite end of that condition or presents persistence in that condition as an end in itself (Chapter I): Thucydides 2.23 *χρόνον ἐμμείναντες ἐν τῇ Ἀττικῇ ὅσου εἶχον τὰ ἐπιτήδεια* 'remaining in Attica as long as their supplies permitted'; Sophocles, Ajax 50 *Καὶ πῶς ἐπέσχε χεῖρα μαιμῶσαν φόνου*; 'How did he succeed in restraining his hand from the murder it longed to do?'

2. In compound verbs of ingressive force wherein the prefix (*ἀνα-*) gives emphasis to a result which is produced immediately with the beginning of an act (Chapter II): Aeschylus, Choephori 328 *ἀναφαίνεται δ' ὁ βλάπτων* 'the guilty one becomes known'.

3. In verbs wherein the prefixes *ἐπι-*, *εἰς-*, *προς-*, *κατα-*, *ἀνα-*, *συν-*, *ἀπο-*, *ἐκ-*, *δια-* imply the result finally attained (Chapters III, IV): Aeschylus, Suppliants 759

. . . θεῶν
οὐδὲν ἐπαΐοντες

'ignoring the gods' (simple *αἴω* 'I hear' is indeterminate, but *ἐπαΐω* 'I obey' is determinate); Plato, Gorgias 471 *εἰς φρέαρ ἐμβαλὼν καὶ ἀποπνίξας* 'having drowned him by throwing him into a well' (as opposed to the simple *πνίγω* which does not result in death).

4. In verbs with the prefixes *ἀπο-* and *ἐκ-* wherein the end or result is suggested by prefixes the literal meaning of which is fit to describe rather the beginning of an act, the point of departure (Chapter V): Xenophon, Oeconomica 11.17 *ἐπιμέλομαι μὴ ἀποχωλεῦσαι τὸν ἵππον* 'I take care not to make my horse lame'

(as opposed to the simple χωλεύω 'I am lame'); Plato, Laws 718b τὴν . . . πόλιν μακαρίαν τε καὶ εὐδαίμονα ἀποτελεῖ 'will make the city happy and blessed'.

5. In verbs with the prefixes ἐκ-, δια-, κατα- wherein the end or result is suggested by the literal meaning of the prefix (Chapter VI): Aristophanes, Birds 377

. . . παρὰ μὲν οὖν φίλου
οὐ μάθοις ἂν τοῦθ' ὁ δ' ἐχθρὸς εὐθὺς ἐξηνάγκασεν.

Of this passage (translated 'Ce n'est pas d'un ami que tu pourrais apprendre cela, mais l'ennemi a vite fait de te forcer à l'apprendre') Brunel says, 'Εκ avec sa valeur déterminée sortie de celle d'achèvement convient à quelques verbes de sens assez général et abstrait. Ἐξαναγκάζω paraît insister mieux que le simple sur le succès de la constrainte.'

Brunel has undertaken an extremely difficult task. That the results pointed out by Brunel are produced by composition, i.e. by prefixes, is not to be denied. But the arrangement of the work leads to obscurity; the categories in some cases seem to be based on unessential differences. A number of the examples contribute nothing to the argument and can be interpreted as determinate only in the light of other more persuasive examples.

Distinctions so finely drawn and categories so elusive remind the reader of a passage in Aristophanes' Frogs (lines 1152–69), where Dionysus is baffled by the difference between the indeterminate aspect of ἥκω and ἐλθεῖν and the determinate aspect of κατέρχομαι.

Aeschylus: Decide to be my savior, my ally. I beg you. For I come to this land and I return.
Euripides: Aeschylus, the wise man, has told us the same thing twice over.
Dionysus: What do you mean 'twice over'?
E. Consider the phrase. I'll show you. 'For' said he 'I come to this land and I return'. But 'I come' and 'I return' are the same thing.
D. Yes by Zeus, as if someone should say to a neighbor, 'Lend me your kneading trough or if you will your trough for kneading'.
A. They are by no means the same, you garrulous fool. It is a most elegant phrase.
D. How do you make that out? Show me on what grounds you say so.
A. Well, a man who retains a share in his country comes to it. That is, he arrives without any connotations. But an exile both comes and returns home.
D. Well said, by Apollo! What do you say to that, Euripides?
E. I deny that Orestes 'returned', for he came without permission of the country's rulers.
D. Well done, by Hermes. But I don't get the point.

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Die Parenthese im engern und im weitern Sinne. By Eduard Schwyzer. (Aus den Abhandlungen der Preussischen Akademie der Wissenschaften, Jahrgang 1939, Phil.-hist. Klasse, Nr. 6.) Pp. 46. Berlin: Verlag der Akademie der Wissenschaften in Kommission bei Walter de Gruyter u. Co., 1939.

Schwyzer has investigated at length the parenthesis or parenthetical insertion of a grammatically separate element within another grammatical unity. This is an important feature of style with some writers, though commonly used

rather sparingly; when the 'insertions' become too lengthy, they are today printed as footnotes or as excursuses. The Greeks distinguished two varieties, the *parénthesis* or intentional insertion, for amplification or clarity, and the *parémptōsis* or involuntary insertion, when the ordinary grammatical framework was not working out successfully. The author pursues the parenthesis in its varieties, through the Rigveda, the Avesta, Old Persian, and Homeric Greek; from Greek to Latin, and thence to Slavic, Germanic, and Celtic. It is, he says—and with right—a normal feature of style, inherited from the far distant pre-literary times. It is a feature of elevated style; it has not been studied in colloquial speech.

He then passes on to consider the parenthesis in an 'extended' sense, and includes any prefixed or suffixed element (even an introductory subordinate clause in a German sentence, which causes inverted order in the [following] main clause), and all vocatives; also, substantival appositives to a clause or sentence, and even many appositives to substantives.

Schwyzer seeks, I think, to make more out of his topic than rightly belongs to it. First, it ought to be emphasized that the parenthetic insertion is merely a normal speech-procedure, and is to be looked for especially in speech which avoids, or has not yet developed to a high degree, the phenomena of syntactical subordination; and an excellent example is found in the Old Persian inscriptions, in the phrases for persons and places. These phrases are always in the nominative, whatever their function in the sentence, and with few exceptions are repeated by a pronoun or an adverb which indicates their function in the sentence. Thus Bh. 1.58–9 *Sika[ya]uvatiš nāmā didā Nisāya nāmā dahyāuš Mādaiy avadašim avājanam* 'Sikayauvati by name, a fortress—Nisāya by name, a province in Media—there I smote him'. This is merely an expression of the helplessness of the composer in the face of a syntactical complexity, which would be 'at Sikayauvati, a fortress in Nisāya, a province of Media, I smote him'. To insert 'is' (with Schwyzer 12–3) in each phrase is not necessary (despite the use of *āha* in Bh. 1.36); the nominative phrase is used, without anaphoric pronoun, as direct object at Bh. 3.13, and as ablative governed by the preposition *hacā* 'from' in Dar. Sz. c 9. Anyhow I cannot feel that in a label of this sort we must supply a verb, especially the copula, which is a relatively late development.

These name-phrases of Old Persian are in all instances essential to the meaning of the sentence, and should be considered rather anacolutha than parentheses. They may fill the conditions prescribed by Schwyzer in his definition of the parenthesis (31): 'From the formal grammatical viewpoint, a parenthesis is a grammatical main clause, which interrupts the grammatical coherence of another clause.' But they cannot be viewed only from the formal side, since a clause or a sentence has its semantic aspect also, and this must not be disregarded.

In pursuing the extensions of his topic Schwyzer includes any element in the sentence which is set off by a pause in the articulation (31); and in connection with the vocative he carries this to an extreme. For in Greek *ὦ ἄνδρες*, Latin *ō virī* 'O men', he believes that there was originally a pause after the interjection, so that these expressions consisted of two separated elements. His evidence

seems to be that after a call like (German) *he* or *hallo* there is no necessity to use a following vocative. But he forgets, or fails to mention, such crases in Greek as ὦνερ for ὦ ἄνερ, and the Latin metrical shortening of ō before a vowel (e.g. in Vergil, Ecl. 2.65), both showing close union of the interjection with the following word.[1]

Schwyzer ends his monograph (46) with emphasis on the thesis that historical grammar should not regard stylistics as a barren field on which it may find no fruit, and conversely, that the investigation of historical stylistics should not work along without a mastery of phonology, word-formation, syntax, and semantics. With this we will heartily agree; for many studies have suffered gravely from the inability of scholars to control the ramifications of their field. But Schwyzer's treatment of the parenthesis is based on the broadest of foundations, even though in selected points I may disagree to some extent.

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ESSAI SUR LES FONDEMENTS PSYCHOLOGIQUES ET LINGUISTIQUES DE LA MÉTAPHORE AFFECTIVE. By HANS ADANK. Pp. 191. Genève: Éditions Union S. A., [1939].

The author, under the influence of the Genevan school, became interested in problems of synchronic linguistics, and with this treatise won the degree of Docteur ès-Lettres in 1936, though publication was delayed. A rhetorical figure represents some type of association of ideas, he says, and the metaphor presents this in two kinds, the one based on a judgment of fact, the other on a judgment of value (14, 70). The two kinds are illustrated (I translate Adank's French examples) in 'tables arranged in a *horseshoe*', and Hugo's 'For us mothers, revolution is a *guillotine*'. The latter is the affective or emotional metaphor. These judgments of value he divides into three classes: those expressed in terms of substances, those in terms of phenomena, those in terms of qualities. These categories, it is true—and he admits this—are not always distinct, and in many examples overlap somewhat, but this is to be expected.

This is about all in the book that interests me as a linguist. I do not find inaccuracies; the underlying ideas and the technical terms are defined with meticulous care. I can say, however, that the treatise is not very linguistic; but then the author states in the preface that stylistics is the crossroads (carrefour) where linguistics, psychology, and aesthetics meet. Now I have a feeling that we linguists ought not to let ourselves be too easily led off into neighboring fields, lest we forget what is our own property. The best opportunity for advances in knowledge is often in locations where two domains of knowledge overlap; yet stylistics is in fact psychology and aesthetics rather than linguistics, just as experimental phonetics often becomes merely a branch of physics, and the measurement of speech-impulses is physiology. We must be conscious of

[1] The retention of this interjection with full length before an initial vowel does not show a pause after it, but merely evidences the other of two possible values (e.g. Hom. Il. 1.74; Hor. Carm. 1.1.2); for elision of a word formed by a single vowel is impossible, since after elision the word would not be there at all.

these boundaries as acutely as of that between linguistics and literature; in every instance language may be in some respect the basic material, but the sciences of applied language are no longer linguistic science—cf. the stages represented by mineralogy, metallurgy, and manufactured metal wares.

So Dr. Adank's treatise, in which he does exactly what he has set out to do, becomes to me rather a haystack of words in which the linguistic needle, though still to be found, is small. I know other volumes of the same type; they also are of limited interest to me as a linguist. But I recall the Chautauqua lecturer, who, when his rustic auditor said that he never could see anything in that fellow Shakespeare, replied 'That is no criticism of Shakespeare.'

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DAS PRÄSENS HISTORICUM IN DEN ISLENDINGA SOGUR. By WILLIBALD LEHMANN†. Pp. 68. Würzburg: Triltsch, 1939.

The frequent use of the historic present is one of the outstanding characteristics of Old Icelandic prose: that it is peculiar to the Germanic languages, as being 'aus den Tiefen des gemeinsamen Mutterbodens'—granting the usage were in itself a mark of excellence—that one may as confidently doubt as the author of this thoughtful monograph asserts it. Together with the increasing use of the present for future, its preterital function seems, much rather, connected, somehow, with the increasingly analytic development of all Western languages.

It is now fairly generally recognized that the Germanic preterite (like the Greek aorist, the French passé défini) tends in its aspect to be essentially abstract, objective, complexive, evaluative; whereas the historic present (like the French imparfait) is concrete, subjective, empathically participating. In this study we are shown how to distinguish four types of the historic present found in Old Icelandic; for which, partly leaning on his teacher, H. Hempel,[1] Lehmann has coined new, and to my mind not very happy, terms; to wit:

(a) the inscenating (better, initiating[2]) or bracketing present, occurring in passages like *nú ríða þeir unz þeir kómu á Mosvǫllu.*[3] Or conclusive, as e.g. after a vividly depicted fight: *þar vega þeir þá átta.*[4]

(b) the scenic present (for which term I would prefer 'the real historic present'), favoring episodes of lively action or impressive description. It may be illustrated by this passage from Njála:[5] *Nú kemr Barði at kveldi til Njáls með flokk sinn, ok stendr Njáll úti ok býðr þeim gisting ǫllum ǫlværliga. þeir þiggia þat. láta lausa hesta sína, setjaz á báða becki,* etc.

(c) the transitory present, whose function is to bridge between episodes, compressing the intervening time and its unessential occurrences; e.g. *nú liðr til holmstefnu framan; þá berjaz þeir.*[6]

[1] Cf. especially his Atlamál und germanischer Stil 27 ff. (Breslau, 1931).
[2] Or still better: introductory present.
[3] Gíslasaga Súrssonar, Sagabibliothek ed. 11.7.
[4] Brennu-Njálssaga, ibid. 54.22.
[5] Ibid, 80.27 f.
[6] Gíslasaga 1.10.

(d) the present (not invariably) with the verba dicendi, viz. *kveða, mæla, segja, spyrja, svara.* E.g. *er þeir kómu á bærinn, mælir Skeggi til mægða við Þórbjǫrn.*[7]

With regard to types (a), (c), (d) one follows unhesitatingly the subtle analysis of passages from eight sagas; but in the case of type (b)—which is by all means the most frequently occurring type—serious doubts arise as to Lehmann's contention that in the best sagas the present invariably reproduces an action or scene vividly presentic to the imagination, as against the more abstract, unemotional, resultative preterite. Take this passage from Njála[8] where this is asserted to be the case:

Skamkell hljóp á bak Gunnari ok høggr til hans með mikilli øxi. Gunnar snøriz skjótt at honum ok lýstr við atgeirinum ok kom undir kverk øxinni ok hraut hon ór hendi honum út á Rangá, etc.

Reversing the tenses: *Sk. hleypr á bak G. ok hjó til hans með mikilli øxi. G. snýz skjótt at honum ok laust við atgeirinum ok kemr undir kverk øxinni ok hrýtr hon ór hendi honum út á Rangá,* etc. does not, to my feeling, in any way affect the passage.

If this be doubted, consider the following passages describing actions with intentional parallelism:

Nú fara þeir heiman ok koma til Kraka ok vekkja bónorðit fyrir hǫnd Einars.[9] With which compare: *Síðan fóru þeir ok hittu Kraka, ok hafði hann hin sǫmu svǫr fyrir sér sem fyrir.*[10]

Þórbjǫrn gekk þá at Ólafi ok høggr um þvert andlitit, svá at ór stukku tennrnar ok jaxlarnir.[11] With which compare: *Hávarðr hjó þá um þvert andlitit ok klauf tennr ok jaxla. . . .*[12]

Þat var eithvert haust, at Ísfirðingar gengu afréttir sínar, ok heimtu men lítt. . . . Nokkuru fyrir vetr ferr Ólafr Hávarðsson heiman ok gengr afréttir . . . leitar fjár manna ok finnr fjǫlða fjár . . . rekr síðan heim fénaðin ok færði hverjum þat er átti. Verðr Ólafr af þessu vinsæll, svá at hverr bað honum góðs.[13] With which compare: *Ok annat haust gengu men enn afréttir sínar ok heimta lítt. . . . Ok er lokit var réttunum, ferr Ólafr heiman einn saman ok gengr afréttirnar . . . , finnr enn fjǫlða fjár ok rekr í bygðina; færir enn hverjum þat er á. Gerðiz hann nú svá vinsæll af bygðarmǫnnum, at allir biðja honum góðs. . . .*[14]

These cases can be multiplied without much trouble. It is with this license in mind, I suppose, that Heusler deliberately spoke of a mere 'hin und her'[15] of the two tenses. And the suspicion arises that the authors are guided, not so much by a delicate and unerring sense of tense values as by the conscious or

[7] Ibid. 2.15.
[8] Ibid. 2.15.
[9] Thórsteinssaga hvíta, ed. Jakobsen 8.25.
[10] Ibid. 9.18.
[11] Ibid. Hávarðarsaga Ísfirðings, ed. Thórólfsson 14.29.
[12] Ibid. 31.23.
[13] Ibid. 3.15.
[14] Ibid. 4.20.
[15] Altisländisches Elementarbuch 412.

unconscious endeavor to avoid the monotony of a long string of presents or preterits.

It is a matter of common note that both the extensive use of the historic present and many other features of style which serve to make 'classical' Old Icelandic prose uniquely popular in the best sense, gradually give way to the much less admirable 'learned' style of the 14th and following centuries. Nevertheless the categorical statement (54), spaced by Lehmann, 'the later a saga, the fewer historic presents it has', needs more confirmation by far than the author was able to give it; for very likely there are more complicating factors than that a very old oral tradition may have been worked over by a bookish scribe! And, indeed, Lehmann does well to qualify his statement considerably. His protracted illness and death prevented him from broadening the investigation to other monuments than the eight sagas (three of which are quite brief) on which to base his conclusions in this respect. Even so, I find remarkable discrepancies between his statistical materials and the few tests which I have made. Thus in the Þórsteinssaga hvíta my count gives ca. 8% of present for past against Lehmann's 15%. However, even accepting his count, and notwithstanding some special pleading by him on that score, this is unquestionably one of the older sagas and should therefore show a much larger percentage of historic presents—if his theory held—, considering that contemporaries like Heiðarvígasaga and Gíslasaga Súrssonar have 55% and 54% respectively. Of course the individuality of the author played a considerable role. At any rate, even the corroborative value of this feature for dating sagas shrinks to very little.

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SONS DEPENDENTES DA FRICATIVA PALATAL ÁFONA, EM PORTUGUÊS. By ARMANDO DE LACERDA and FRANCIS MILLET ROGERS. (Fundação do Instituto para a Alta Cultura, Universidade de Coimbra.) Pp. 128 with 15 figures and 6 plates. Coimbra: Laboratório de Fonética Experimental . . . , 1939.

In this book Professor Lacerda and Dr. Rogers have presented in a most meticulous manner the results obtained from a careful and searching investigation of the phenomena adjunct to the voiceless palatal fricative in Portuguese.

The tracings were obtained by means of a complex system of chromographic recordings, divided by the authors into two main categories: direct and indirect. The former uses primarily pneumatic devices, the latter combines pneumatic with electrical or uses electrical alone. Professor Lacerda's own improved design of the mouth-piece is an interesting addition to the equipment of the experimental phonetics laboratory.

In the tracings, pitch is not expressed in terms of the number of double vibrations per second, but rather as the linear length of one dv. Since a second is represented in the tracing by a definite length, the drum being driven at constant speed, the more dv. per second, the shorter linear extent of each dv. Therefore, the lower the figure representing the length of one dv. in the tracing, the higher the pitch. Here the principal objection is that the accurate delimitation

and measurement of a single dv. is extremely difficult, and will give rise to differences of interpretation of the tracings. This is particularly true since the authors are interested in relating pitch and quality variations. The criticism is not altogether answered by the warning that some modifications may have been introduced into the appearance of the tracings in the course of the photographic processes required for their publication.

The starting point of the investigation was the observation by Rogers that in a combination like *ás* he heard, between the pure vowel sound and the final voiceless fricative [ʃ], an element which seemed to him to be a kind of [ʒ]. This led to an investigation of the various occurrences of the combination of vowel plus voiceless palatal fricative, as pronounced by one native speaker and checked by another. (Unfortunately the details of the linguistic description and the history of the speakers are lacking.) It was considered necessary to have a second native as a check, because of the various 'modalities' in which the recorded words were pronounced. These modalities are listed under three headings: 'enunciativa, informativa, interrogativa'. Two grades of emphasis were also employed: 'grau simples, grau enfático'; and the pitch was varied through three stages: low, normal and high.

The conclusions reached are set forth (102–3) in a detailed and complex tabulation which the reviewer would render briefly as follows:

The sound dependent on the voiceless palatal fricative is acoustically a kind of [ə], but not truly a vocalic entity and therefore not to be transcribed by that symbol. It is rather a modification of the vowel quality, and results from the articulatory interaction of vowel and consonant. It occurs in the interrogative modality when the latter is expressed by a final inflection, and in the emphatic degree of the informative modality. This modification is found only when vowel and consonant occur in that order, in final position, forming a syllabic unity. The voiceless palatal fricative preceding the vowel shows no interaction with it. (In this connection it is interesting to note that a word like *casta* or a group like *às peças* show no modification of the first vowel, suggesting indirectly a kind of syllable division between the vowel and the fricative: *ca-sta, à-speças* rather than a division between the two consonants, such as we have generally assumed.)

Thus what had seemed to be a voiced [ʒ] in anticipation of the [ʃ] consonant articulation, was found to be in reality a modification of vocalic quality due to the presence of the fricative consonant and of certain factors which must be considered primarily flectional, rather than articulatory.

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NOTES

MANY DISTINGUISHED SCHOLARS, including many foreign linguists now in this country, find themselves unable to participate in the activities of the Linguistic Society because they cannot afford to pay membership dues. To meet the needs of such scholars, and to secure for the Society the benefit of their association, the Society on December 30, 1940, voted that the Treasurer be instructed to invite contributions to a fund to pay the annual dues of distinguished scholars who are at the time not in a position to pay dues, and that the President appoint a committee of three to select the beneficiaries of this fund.

Accordingly, the Treasurer now earnestly invites all members of the Society who can do so to send him contributions for the purpose stated, as large or as small as the donors care to make them. At the same time the President's Committee (Alfred Senn, chairman; Hayward Keniston, Kemp Malone), with whom the final administration of the fund will rest, invite suggestions from all members who know of possible beneficiaries.

THE LINGUISTIC INSTITUTE OF 1941 will be held at the University of North Carolina in Chapel Hill, as part of the first half of the University's Summer Session, June 12 to July 19. The Administrative Committee, appointed by the Executive Committee on behalf of the Linguistic Society, consists of Urban T. Holmes Jr., Director; Edgar H. Sturtevant, Associate Director; Charles C. Fries, and George S. Lane. The committee, cooperating with a committee of the University with interlocking membership, expects that the Institute will this year offer thirty linguistic courses, conducted by a staff of sixteen, including ten visiting scholars.

INTENSIVE INSTRUCTION IN CHINESE AND JAPANESE will be offered for eight weeks during the summer of 1941 at Cornell University, under the sponsorship of the American Council of Learned Societies. Dr. George A. Kennedy of Yale University and Dr. Edwin O. Reischauer of Harvard University will direct the work in Chinese and in Japanese respectively. For particulars, address Dr. Mortimer Graves, American Council of Learned Societies, 907 Fifteenth Street, N.W., Washington, D. C.

BEGINNING WITH THE PRESENT ISSUE, LANGUAGE and its Supplements appear in a new format. The number of 10-point lines per page has been increased from 40 to 45, and the length of each line from $4\frac{1}{4}$ inches to $4\frac{3}{4}$: a total gain of about 25% in the printed matter on one page. The over-all trimmed size of the pages remains the same, in order that forthcoming publications, whether bound or unbound, may be uniform with the earlier volumes. The advantage of the new format is its much greater economy. If the funds available for publication should continue at about the same level as during the past year, the saving effected by the change will make it possible to print a larger number of articles and reviews than there has been room for hitherto; and if, as un-

fortunately appears more likely, our funds should fall off as a result of the war, it will at least enable us to maintain the size of our journal unreduced.

Accompanying this change in format is a change in the paper on which our publications are printed. The new paper is of the same quality and strength as the stock used formerly, and should therefore prove just as durable; but its smooth finish gives it the additional and highly desirable quality—whose lack in the old paper many readers felt to be a serious disadvantage—of taking ink.

THE FOLLOWING WERE ELECTED TO MEMBERSHIP in the Linguistic Society of America for 1940, subsequent to the last published list and up to November 24, 1940; they are included in the complete list of members for 1940 printed in Bulletin No. 14: Malcolm Sylvan Coxe, Paul Forchheimer, William J. Gedney, Arthur E. Gordon, Augustus Magne, Edward A. Robinson, Arnold C. Satterthwait, Sister Marie Antoinette. The following were in the same period elected to membership for 1941:

AKIN, (Miss) JOHNNYE, Ph.D., Instructor in Speech, Maryville College, St. Louis, Mo.

BLAUVELT, HIRAM B. D., B.A., President of Comfort Coal-Lumber Co., 123 Anderson St., Hackensack, N. J.; *Dutch, semantics.*

SMITH, HUBERT E., JR., 211 Pyne Hall, Princeton, N. J.; *Indo-European.*

WILLIAMS, CARL OSCAR, Ph.D., Professor of Modern Languages, Grand Rapids Junior College, Grand Rapids, Mich.; *semantics.*

WILLIAMSON, WALLACE J., III, 311 Henry Hall, Princeton, N. J.; *German, Latin.*

PUBLICATIONS RECEIVED

We acknowledge here the receipt of such works (books, monographs, bulletins, reprints of articles, issues of periodicals, etc.) as appear to bear on the scientific study of language. The publicity thus given is regarded as a full return for the presentation of the work.

In no case is it possible to comply with the request of certain publishers for the return of books not reviewed. Reviews will be printed as circumstances permit, and copies will be sent to the publishers of the work in question.

Members of the Linguistic Society who wish to review any of the books here listed are invited to communicate with the Editor. Books reviewed become the property of the reviewer.

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THE PROTHETIC VOWEL IN GREEK

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[The so-called prothetic vowel in Greek finds its ultimate explanation in Indo-Hittite. In Indo-Hittite bases beginning with the first, third, or fourth laryngeal, the first syllable was retained everywhere if it was in the full grade. If it was in the reduced grade, it was lost everywhere except in Hittite, Greek, and Armenian. If the second consonant was *w*, the first three laryngeals could unite with it to form a long voiceless *hw* which appears as spiritus asper in Greek; this accounts for the Attic and Homeric alteration of ἕδνον and ἐέδνον. If the initial syllable began with the second laryngeal (?) and was in the reduced grade, it was lost everywhere, but the laryngeal united with a following liquid or nasal to give the long voiceless λ̄, μ̄, ν̄ which 'make position' in Homer.]

The so-called prothetic vowel is one of the least understood phenomena of the Greek language. This misunderstanding is in a measure due to the double nature of 'prothesis' itself. There are cases of true vocalic prothesis, where, as the term implies, a vocalic element is added initially to the root, presumably for purely phonetic reasons. This vocalic increment usually appears before consonant clusters, as ἰκτῖνος : Skt. *śyenas*. In other cases etymological and comparative evidence seems to indicate that the vowel, wrongly termed prothetic, was an inherited part of the root which was lost in most Indo-European dialects, as in the cognate pairs ἔδω : *edō*, but ὁδών : *dēns*; also compare ὄνομα : Arm. *anun*, but Lat. *nōmen*, Skt. *nāma*. In addition to these two categories, there are vocalic prefixes, such as ὁ- 'same' and ἀ- (< *η*) 'in'. Further, there are a few words whose prothesis remains obscure and indeterminate, and where a double root is possibly to be assumed, as in the pair βέλος/ὀβελός.

This paper will be concerned primarily with false prothesis, where the vowel in question is really a part of the root; true prothesis is rarer and more easily discerned. To arrive at any consistent rationale of this phenomenon it will be necessary to go back to Indo-Hittite bases for all words cited, Indo-Hittite being a prior state of Indo-European where the laryngeal consonants were phonemic and intact. It will be clear from section III why the laryngeals must be assumed in the etiology of Greek prothesis. The bibliography on the laryngeal hypothesis is by now fairly extensive,[1] and opinions on the subject have reached a certain degree of crystallization. The writer agrees in general with E. H. Sturtevant, whose views may be briefly summarized. There were four laryngeal consonants in Indo-Hittite, which were lost in Indo-European: (1) ', (2) *ɨ*, (3) *x*, and

[1] Cf. particularly F. de Saussure, Mémoire sur le système primitif des voyelles dans les langues indo-européennes (Leipzig, 1879); H. Möller, Die semitisch-vorindogermanischen Laryngalen Konsonanten, Danske Videnskabernes Selskabs Skrifter 5.4.1–91 (1917); A. Cuny, Études indo-européennes I (Krakow, 1935); W. Couvreur, De Hettitische *ḫ* (Leuven, 1937); and the recent articles by E. H. Sturtevant, Lang. 16.81–7, 179–82, 273–84 (1940).

The present article is a reworking of material included in my doctoral dissertation (Princeton University, 1938). I wish to thank Professors Harold H. Bender and Edgar H. Sturtevant for their many kindnesses.

(4) γ. Their exact phonetic nature can perhaps not be defined at this time, but the first two were probably glottal stops, of palatal and velar color respectively, while the last two were doubtless spirants; the fourth alone was certainly voiced, while the others seem to have been voiceless.[2] The third and fourth appear in Hittite as *h*, the *h* corresponding to the third being written double when this was possible, but never the *h* corresponding to the fourth.[3] Before the laryngeals disappeared in Indo-European they had altered both the quantity and quality of adjacent vowels. They all lengthened preceding short vowels, which became the 'inherited long vowels' of conventional Indo-European comparative grammar. When antevocalic the laryngeals had no effect on vowel quantity, but the second and third changed a following (or preceding) *e* to *a*. The only long vowels in Indo-Hittite were lengthened grades. The Indo-European shwa primum (ə), then, is the result of the reduction of the original short *e*, that is, shwa secundum (ъ), plus a laryngeal. Whether there was a still further reduction, that is, a vocalization of the laryngeal per se, is problematical, but not at all impossible. Any initial vowel in Indo-European followed an initial laryngeal in Indo-Hittite.

I. The Prothetic Vowel

The reasons for assuming that vocalic 'prothesis' in Greek was inherited are, in general, three. (1) Armenian agrees with Greek in this respect, *a-* being the Armenian 'prothetic vowel', though *e/i-* sometimes corresponds to Greek *ἐ-*; e.g. Skt. *nāma*, Lat. *nōmen* : Gk. *ὄνομα*, Arm. *anun*; or Skt. *rajas*, Goth. *riqis* : Gk. *ἔρεβος*, Arm. *erek*. (2) Cognate words with the accent on the first syllable show the vowel; e.g. *ἔδω* : Skt. *admi*, Lat. *edō*, but *ὀδών* : Lat. *dēns*, etc. (3) Vedic reduplication with a long vowel indicates the presence of an original initial vowel which was lost in Sanskrit, but which remained as 'prothetic' in Greek, e.g. *ἐγείρω* : Lat. *expergīscor* (< **ex-per-grīscor*), Skt. *gṛ*, but *jāgṛ* and *ἐγρήγορα*. The idea that the 'prothetic vowel' is in reality an inherited part of the root, ultimately due to an initial laryngeal syllable, is not new, having been advanced by nearly all the holders of the laryngeal hypothesis, of whom Benveniste has made the most recent statement:[4]

> La 'prothèse vocalique' du grec et de l'arménien a donc, au moins en partie, un fondement étymologique: c'est la reste d'une initiale *ʒ*-antéconsonantique.

But the phenomenon was first noticed by Möller, who claimed that an Indo-Semitic **Aewén*, for example, resulted in an IE **wén*, though the initial laryngeal syllable was sometimes retained, especially in Greek.[5] From the catalogue of

[2] J. A. Kerns and B. Schwartz in JAOS 60.181–92 (1940) argue that the second must have been a voiced velar spirant. This theory, however attractive from the standpoint of Gestalt, is not in accord with the facts (cf. sections II and III below).

[3] Cf. E. H. Sturtevant, Lang. 16.81–7.

[4] Origines de la formation des noms en indo-européen 152 (Paris, 1935).

[5] 'Der erste Vokal mit dem Spiritus lenis is zuweilen altertümlich (ursprünglich als Schwa-vokal, dann aber quantitativ mit dem ursprünglichen e zusammengefallen), besonders im Griechischen, noch erhalten' (Laryng. Kons. 9).

words with 'prothesis' which follows it is perhaps possible to alter and expand Möller's supposition into a 'law', namely: In Indo-Hittite bases beginning with the first, third, or fourth laryngeal, the first syllable was retained everywhere if it was in the full grade. If the first syllable was in the reduced grade, it was lost everywhere except in Hittite, where it appears as *a-* or *ha-*, Greek, where it appears as *ἀ-*, *ἐ-*, or *ὀ-*, and Armenian, where it appears as *a-*, (*e/i-*). If the initial syllable began with the second laryngeal (*ɔ*) and was in the reduced grade, it was lost everywhere, but the laryngeal united with a following liquid or nasal and made it long and voiceless.

The situation is perhaps not as clear-cut as one would like, for various contaminations, assimilatory and dissimilatory changes have played their role of havoc. Sturtevant has convinced me that *ε* and *o* are contaminated shwas for the usual *a*; the same was probably true in Armenian, where we sometimes have *e* or *i* for the usual *a*. Also, there are very few certain cases of IH bases with initial fourth laryngeal, the prefix *e-/o-* (< IH *γe-*) 'with, together, same' accounting for many words with seeming IH fourth laryngeal initial. On the whole, however, the outlines of this phonetic development are fairly well defined, as the following table shows. I posit IH bases in themes I and II. (*A* = laryngeal 1, 3, or 4; *e* = original vowel, *C* = consonant other than laryngeal.)

Theme I: *AéC(C)*	Theme II: *AɒCé(C)*
**Aérw-* 'red': Skt. *arunas*, Gk. *ἐρευθος*.	**Aɒréw-*: Skt. *rohitas*, *ravis* 'sun', Lat. *ruber*, OE *rēod*, Arm. *arev* 'sun', Gk. *ἐρυθρός*.
**'éd-* 'eat': Lat. *edō*, Skt. *admi*, Gk. *ἔδω*, Hitt. *etmi*.	**'ɒdé-n-* 'tooth': Lat. *dēns* (*dent-*), Skt. *dan*, Lith. *dantìs*, Goth. *tunþus*, Gk. *ὀδών*, Arm. *atamn*, Hitt. *atanz* 'eaten'.
**'és-* 'is': Skt. *asti*, Lat. *est*, Lith. *esmi*, Goth. *ist*, Gk. *ἐστί*, Hitt. *eszi*.	**'ɒsént-* 'are': Skt. *santi*, Lat. *sunt*, Goth. *sind*, Hitt. *asanzi*, Gk. (Hom.) *ἔᾱσι*, *ἐών*.
**xélk-* 'defend': Goth. *alhs* 'temple', OE *ealhian*, Gk. *ἀλκή*.	**xɒlék-*: Skt. *rakṣati*, Gk. *ἀλέξω*.
**xéwy-* 'bird': Lat. *avis*, Arm. *hav*.	**xɒwéy-*: Skt. *vayas*, *veṣ*, Gk. *αἰετός*.
**xéwg-* 'increase': Lat. *augeō*, Skt. *ojas*, Goth. *aukan*, Gk. *αὐξάνω*.	**xɒwég-*: Skt. *vakṣayati*, Goth. *wahsjan*, Gk. *ἀ(ϝ)έξω*.
**Aérg-* 'reach, extend': Gk. *ὄργυια*.	**Aɒrég-*: Lat. *regō*, Gk. *ὀρέγω*.
**'énbh-* 'cloud, mist': Skt. *ambhas*, Arm. *amp*, Gk. *ἀφρός*.	**'ɒnébh-*: Skt. *nabhas*, Lat. *nebula*, OHG *nebel*, Hitt. *nepis*, Gk. *νέφος*, but Hom. *δὲ νέφος*.
**'élbh-* 'white': Lat. *albus*, OHG *elbiz* 'swan', Gk. *ἀλφός* 'white spot', Hitt. *alpas* 'cloud'.	**'ɒlébh-*: Gk. *λόφος* 'crest, ridge', but Hom *ὑπὸ λόφον*.

The rest of this section is a catalog of the most important Greek words that exhibit 'prothesis' as an inherited part of the root. The second section will treat

words that have spiritus asper alternating with 'prothesis'; the third will treat words of the last type listed above.

ἀγείρω 'gather, assemble' : Lith. *gurgulẽ* 'Menge' has ἀ- probably from ῃ 'in'.

ἀγοστός 'hand' : Skt. *hastas*, Lith. *pažastìs*; the aspiration in Sanskrit is doubtless due to laryngeal *x* absorption (cf. θυγάτηρ : *duhitā*); < **xъgost-*.

ἀ(ϝ)είδω 'sing', ἀοιδός, αὐδή, ἀηδών : (possibly) Skt. *vadati* 'speaks', < **xъweud-* (reduplication).

ἀ(ϝ)είρω 'raise' : (possibly) Skt. *varṣma* 'height', Lith. *svẽrti* 'weigh', < **Aъwer-*.

ἀ(ϝ)έξω 'increase' : Skt. *vakṣayati*, Goth. *wahsjan*, Lat. *augeō*, < **xъweg-*.

ἄ(ϝ)εθλος 'contest' : Goth. *wadi*, Skt. *vadhati*, < **Aъwedh-*.

ἀκούω 'hear' : Goth. *hausjan*, Hom. νηκουστέω 'disobey' with lengthened ῃ as a result of initial laryngeal, < **Aъkew-*.

ἀλέγω 'am anxious' : Lat. *dī-ligō*, ON *lakr* 'bad', < **Aъleg-*; Theme I in ἄλγος, ἀλγέω : Lat. *algeō*, < **Aelg-*.

ἄλεισον 'drinking cup' : OHG *līd* 'cup' (Lith. *lytùs* 'rain'?), < **Aъleit-*.

ἀλείτης 'guilty' : OHG *leid*, Lith. *letéti* 'trouble', < **Aъleit-* (*A* = a laryngeal different from the one in the preceding paragraph).

ἀλέξω 'defend, protect' : Skt. *rakṣati*, < **Aъlek-*; Theme I in ἀλκή : Goth. *alhs*.

ἀλίνω 'anoint' : Skt. *lināti, limpati*; ἀλείφω 'anoint' probably by contamination of this and λίπος (< **!lip-*), < **Aъlein-*.

ἀλύω 'am beside myself', ἄλυσις 'inquietude' : Skt. *roṣati*, < **Aъleus-*.

ἀλωή 'garden' : Skt. *lavas* 'cutting', < **AъleAw-*; Att. ἄλως has unexplained aspiration.

ἀλώπηξ 'fox' : Skt. *lopacas*, Arm. *ałues*, < **AъleApek-*.

ἀμάρα 'conduit' : (probably) Lat. *mare*, ON *moerr* 'sea' < **Aъmar-*.

ἀμαρτία 'mistake' : Skt. *mṛṣa* 'wrongly', Lith. *miršti* 'forget', < **Aъmert-*; νημερτής 'infallible' shows initial long ῃ from laryngeal. On aspiration cf. ἄλως above.

ἀμαρύσσω 'gleam' : Skt. *marīciṣ*, Lith. *mìrkanis* 'glance', < **Aъmer-w-k-*.

ἀμοιβή 'change' : Lat. *migrāre*, < **Aъmeigw-*.

ἀμέλγω 'milk' : Lat. *mulgeō, mulctō*, OHG *milchu*, Lith. *mìlžti*, < **Aъmelg-*.

ἀμέργω 'gather' : Skt. *mṛjati*, < **Aъmerg-*; Vedic reduplication in *māmṛj*, with *ā* confirming laryngeal; ὀμόργνυμι has ὀ- by assimilation.

ἀμεύσασθαι 'move' : Lat. *moveō*, Lith. *máuti*, < **Aъmew-*.

ἀνάγκη 'necessity' : Lat. *necesse*, (probably) Hitt. *henkzi* 'determines', < **xъnek-*. The Greek word, however, might be Theme I with reduplication or Theme II with inserted nasal.

ἀνήρ 'man' : Skt. *nara*, Lat. *Nerō*, < **Aъner-*.

ἀστήρ 'star' : Lat. *stella*, NE *star*, Arm. *astł*, is probably a Semitic loanword, cf. *Ishtar*.

ἀῦτέω 'call' : Lat. *iūbilum*, < **AъyuA-*; onomatopoetic.

ἔᾶσι (Hom.) 'they are' : Att. εἰσί, Lat. *sunt*, Skt. *santi*, Hitt. *asanzi*, < *'ъsn̥ti.[6]

[6] The usual explanation (cf. Buck, Comp. Gr. of Gk. and Lat. 246) is that ἔασι is after τιθέασι; rather, the two words have a similar origin, shwa + consonant + αντι.

ἐγείρω 'awaken' : Lat. *expergīscor*, Skt. *jāgarti*, with long vowel in reduplication due to a laryngeal, < **Aъger-*; νήγρετος 'wakeless' has long *n̥* from initial laryngeal.

ἐ(ϝ)είδομαι (Hom.) 'seem' : Lat. *videor*, οἶδα, Skt. *veda*; lack of aspiration would indicate fourth laryngeal initially (cf. next section). Root **γъweid-*.

ἐθέλω 'wish' : OCS *želėti*, Hes. φαλίξει. Sapir has noted (unpublished) the Toch. B cognate *yšelme* with *y-* from *'e-*. Root **'ъghwel-*.

ἐλάτη 'pine' : Skt. *lata*, OHG *linta*, < **Aъlent-*; the Greek word is probably from Theme I, **Aelṇt-*.

ἔλαφος 'hind' : Goth. *lamb*, < **Aъlembh-*; the Greek word may be from Theme I, cf. above.

ἐλαχύς 'quick' : Skt. *laghuṣ/raghuṣ*, OHG *lungar*, **Aъle(n)ghw-*, cf. above.

ἐλέγχω 'accuse, reproach' : Skt. *langhati*, Hitt. *lenkais* 'oath', < **ꜣъlengh-*, with *ꜣ* because of lack of initial vowel in Hittite. The Greek word is doubtless in Theme I with contaminated vowels.

ἐλούθω· ἔρχομαι (Hes.) : (possibly) Skt. *rodhati*, Goth. *liudan*, and possibly also to ἐλεύθερος, Lat. *līber*, < **Aъleudh-*.

ἐμός, ἐμέ 'my' : Skt. *mam*, *maya*, etc., Hitt. *amuk*, < **'ъme-*.

ἐνεγκεῖν 'draw, carry' : Skt. *naśati*, *aśnoti*, Lat. *nancīscor*, Lith. *nèšti*, Hitt. *nenk-*, *nenenk-* 'rise, raise', < **'ъnek-*, but cf. ἀνάγκη above.

ἐννέα 'nine' : Skt. *nava*, Lat. *novem*, Goth. *niun*, Arm. *inn*, < **'ъnewn*.

ἐράω 'love' : (probably) Skt. *ramate* 'is in repose', *ariṣ* 'desiring', < **Aъr-*.

ἔρεβος 'darkness' : Skt. *rajas*, Goth. *riqiz*, Arm. *erek*, < **Aъregw-*.

ἐρείδω 'support' : Lat. *rīdica*, < **Aъreid-*.

ἐρείκω 'break' : Skt. *rikhati*, Lith. *riẽkti*, < **Aъreik-*.

ἐρείπω 'dash, tear down' : Lat. *rīpa*, ON *rīfa*, < **Aъreip-*.

ἐρέπτομαι 'snatch, eat' : Lat. *rapiō*, Skt. *rapas*, < **Aъrep-*.

ἐρέσσω, ἐρέτης 'row(er)' : Lat. *rēmus*, OE *rōwan*, Skt. *aritras* (Theme I), < **Aъret-*.

ἐρεύγομαι 'eructate' : Lat. *ē-rugō*, *ructō*, Lith. *raũgti*, Arm. *orcam*, < **Aъreug-*.

ἐρέφω 'cover' and ὄροφος 'reed (as roofing)' : OHG *hirni-reba* 'crane', NE *roof*, < **Aъreph-*.

ἐρέχθω 'tear, break' : Skt. *rakṣas* 'torment', < **Aъrekhth-*.

ἐρέω 'question' : ON *raun* 'essay', < **Aъrew-*.

ἐρυγόντα 'bellowing' : Lat. *rugiō*, < **Aъreug-*; in the form ῥύζω 'growl' the laryngeal has coalesced with the ρ.

ἐρυσίχθων 'earth-shaker' : Lat. *ruō*, *ē-ruō*, < **Aъreu-t-*; ῥυτός 'shaken' has the same explanation as ῥύζω.

ὄβριμος 'mighty': βρίμη probably has *e/o* (< *γe/γo-*) prefix, or else it is from a root doublet.

ὀδών 'tooth' : Skt. *dan*, Lat. *dēns*, Lith. *dantìs*, Goth. *tunþus*, Arm. *atamn*; Theme I in ἔδω : Hitt. *etmi*, etc.; root **'ъde-n-*.

ὀλιβρόν (Hes.) 'smooth' : OHG *slīfan*, NE *slip*, < **Aъ(s)leib-*.

ὀλίγος 'little' probably has prefixed ὀ- if related to λοιγός 'misfortune', Lith. *ligà* 'malady'.

ὀλισθάνω 'slip' : Lith. *slýsti*, NE *sled*, < **Aъ(s)leidh-*.

ὀλοφύρομαι 'cry' : Arm. *ołb* 'plaint', < **Aʊlebh-*.

ὀμίχλη 'mist' : Skt. *meghas*, Lith. *miglà*, < **Aʊmeigh-*; also ἀμιχεῖν 'urinare'; Arm. *mēg* and *mēz* do not prove lack of inherited initial syllable, since they are Persian borrowings.

ὄνειδος 'reproach' : Goth. *naiteins*, Skt. *nīda* 'affront', Arm. *anicanem*, < **Aʊnei-d-*.

ὄνομα 'name' : Skt. *nāma*, Lat. *nōmen*, Arm. *anun*, < **AʊneAmn*; the Greek word, however, is in Theme I with *o*-grade in the first syllable.

ὄνομαι 'injure, blame': Lat. *nota* 'sign, stigma' is probably a pejorative specialization of the root in ὄνομα.

ὄνυξ 'nail' : Skt. *nakhas*, Lith. *nãgas*, OE *naeġel*, Lat. *unguis* (Theme I), < **Aʊnekhw-*.

ὀπτός 'cooked' has probably prefixed ὀ- to the base in πέσσω 'cook'.

ὀπυίω 'take for wife' is probably a word of foreign origin, cf. Etr. *puia-c* 'and wife'.

ὀρέγω 'reach, extend' : Lat. *regō*, *por-rigō*, Skt. *rajiṣṭhas*, Goth. *uf-rakjan*, < **Aʊreg-*; Theme I is seen in ὄργυια 'fathom' < **Aerg-*.

ὀρεχθέω 'beat fast' < **Aʊreghdh-*; the doublet ὀροχθέω, with laryngeal assimilation in the ρ-, is from **Areghdh-*.

ὀρτίνω 'rise' : Skt. *riṇati* 'causes to flow', Lat. *rīvus*, < **Aʊrei-*; Theme I in ὄρνυμι, *orior*, < **Aer-*.

ὀρύσσω 'dig', ὄρυξ, ὄρυγμα : Lat. *rūga* 'wrinkle', Lith. *raũkas*, < **Aʊreug-*.

ὄτλος, *Ατλας : τλῆναι, τελαμών, is from **Ao-teleA-*.

ὄφελος 'utility' : Skt. *phalam* 'fruit' has probably the same prefix.

This list of words is not complete, but there is no particular advantage in making it so. Nor has a full citation of etyma and references been given, as these can easily be found in the usual etymological dictionaries. Further, many compounds, particularly those with the prefixes ὀ- and ἀ- (< *go-* and *sm-*) 'together, same' such as ὄπατρος 'of the same father', ὄζυγες (Hes.) 'yoked together', ὀκέλλω alternating with κέλλω 'ground', ὄζος 'companion' (from **ὀοζος*), ἀδελφός ('of the same womb') 'brother', etc., have necessarily been omitted.

II. 'Prothesis' Alternating with Spiritus Asper

There are two reasons for this separate heading: (1) we are to deal with a phenomenon which, unlike the preceding, apparently manifests itself differently in different dialects, and (2) a newly discovered IE phoneme is involved.[7] When confronted with such pairs as ἄημι/αἴνω, ἐέρση/ἔρση, ἀολλής/ἁλής, and their respective cognates, Lat. *ventus*, Skt. *varṣan*, Lith. *vėlià*, it is at once apparent that more than a simple initial *w-* is involved. Otherwise, why the alternative forms with 'prothesis', and why the rough breathing, since simple IE initial *w-* is totally lost in Greek (cf. ἴον : Lat. *viola*, ἐμέω : Lat. *vomō*)? When Hittite cognates are noted, e.g. *hwantas* 'wind' for the first pair mentioned above, it

[7] Edward Sapir has treated the subject in his article Glottalized Continuants in Navaho, Nootka, and Kwakiutl (with a note on Indo-European), Lang. 14.248–74 (1938). The present investigation, however, was quite independent of Sapir's.

becomes clear that an IH initial laryngeal is involved. We must then understand ἄημι as coming from an IH base *xʁweA-, and αἶνω (< *hwənyō) as coming from an IH base *xwʁ-. Since the laryngeals were lost early in IE,[8] and since a *w* in conjunction with a laryngeal in IH is represented as a phoneme distinct from the simple *w* in both Greek and Germanic,[9] we must understand that IE had a long, voiceless phoneme *hw* (in distinction to the voiced simple *w*) which was the result of the conjunction of any one of the first three (voiceless) laryngeals and a *w* in IH or early IE. The same is true of *y* also, but that is outside the scope of this study since apparently no 'prothesis' is involved. Presumably the fourth (voiced) laryngeal (γ) did not enter into this union, and there is no clear proof that it did.[10] This development, as far as Greek is concerned, can be summarized in the following table:

IH	*xéwA- 'blow'	*xʁwéA-	*xwʁA-
IE	*au-	*əwē-	*hwə-
Gk.	αὔρα	ἄημι	αἶνω
Cog.	Lat. *aura* 'breeze'		Hitt. *hwantas* 'wind', Lat. *ventus*
IH	*ʔéw(s)- 'see, light'		*ʔwé(s)-p-
IE	*au(s)-		*hwe(s)-p-
Gk.	αὔριον Hom. ἠώς < *αϝσως		ἕσπερος
Cog.	Lat. *aurōra*, Hitt. *auszi* 'sees'		Lat. *vesper*
IH	*Aéwrg- 'shut in'	*Aʁwérg-	*Awerg-
IE	*eurg-	*əwerg-	*hwerg-
Gk.		εἴργω < *ϵϝϵργω	ἔρξας
Cog.	Lat. *urgeō*		Skt. *vrajas*

In general, it is to be noted that forms with 'prothesis' are associated with Homer or the dialect(s) underlying Homer, while forms with spiritus asper are associated with Attic, though this is not always true. The form εἴργω < *ϵϝϵργω, for instance, is certainly Attic. As we have noted before, mutual contaminations have affected different forms from the same root; thus εἴργω and ἔρξας (Plato, Politicus 285B) are normal for their respective ablaut grades, while ἔργω represents a contamination of the latter type with the former. On the whole, all that can be said is that Attic 'prefers' the forms with rough breathing. The following is a catalog of such words compiled largely from Sommer,[11] though his treatment of them, without benefit of the laryngeal hypothesis, is extremely specious and ad hoc.

[8] There is no space here to go into the proof. Suffice it to say that no laryngeals survive per se in any IE language, and that their disappearance leaves exactly the same results in all the IE languages.

[9] The existence of this phoneme in Germanic was discovered by H. L. Smith Jr. See his article, The Verschärfung in Germanic, below.

[10] Cf. Sturtevant, Lang. 16.85, fn. 3.

[11] Griechische Lautstudien 83–136.

ἄημι 'blow', ἀήρ 'atmosphere', ἄεμμα, ἄελλα, Aeol. αὔελλα 'stormy wind'; without 'prothesis' but with spiritus asper in αἴνω 'scatter by the wind' alternating with ἀνέω (< *ϝανεω). The third laryngeal initial is evidenced by Hitt. *hwantas* : Skt. *vāti*, OCS *vějati*, Goth. *waian* 'blow', Lat. *ventus*, *vannus*, NE *wind*, *winnow*, in Theme I with *r*-extension in αὔρα, Lat. *aura*. Benveniste[12] connects the above, and probably rightly, with Hitt. *huwai-* 'run, flee' : ἵεμαι (< **hwei-*) 'rush, hasten', and also *aiετός*, Lat. *avis* 'bird'.

ἁλίσκομαι 'am taken', Arc. ϝαλοντις, Lac. ἥλωτεις (< *ϝεϝελωτεις) : (possibly) Goth. *wilwan* 'pillage'. αἴρω 'take' would belong here if there were any evidence for digamma (cf. Boisacq), as well as ἀείρω 'lift'. Root probably **xwel-*, certainly so if Hitt. *hullas-* 'be defeated' belongs here.

ἐαρόν (Hes.) 'bath' : Umbr. *vesticatu* 'libato', OHG *wasal* 'wetness, rain', < **Awes-*.

ἔδνον, Hom. ἕεδνα 'bridal gift', ἐδνόω, ἐδνωτής, ἐεδνόω, ἐεδνωτής 'betroth(er)' : OE *weotuma* 'bridal price', < **Aɷed-/*Awed-*. It would be attractive to connect Skt. *vadhūṣ* 'bride', NE *wed*, and Hitt. *hwitt-* 'lead', but in both cases different final consonants are involved.

εἴκοσι, Hom. ἐείκοσι 'twenty'. Sommer 108 notes a Theran ΗΙΚΑΔΙ. We can perhaps expect analogical influences from other numerals; but if not, the root is **Awei-kmta*.

εἴλω, εἰλέω 'roll, twist up', pass. 'rolled together, thronged'; aor. inf. ἕλσαι, Hom. ἑέλσαι, Ion. ἀλής, Hom. ἀολλής 'rolled together, thronged', ἡλίαια 'popular tribunal', probably also ἅλις 'in a crowd, enough' if not from a root **swel-*. The root is **xɷwel-/*xwel-* in view of the Hittite cognates *hulaliya-* 'wrap, wind', *hulali* 'distaff'.[13] Hitt. *hulla-* 'smite, destroy' probably belongs here too (certainly not to ὄλλυμι as Couvreur thinks[14]), for one of the meanings of Hom. εἴλω is 'drive along, smite', cf. νῆα κεραυνῷ ἕλσας. Probably ἕλιξ 'spiral', ἑλίσσω, Ion.-Att. εἰλίσσω (< *ϝεϝελισσω) 'roll', and ἕλμις 'worm' also belong here.

εἰλύω 'cover, enclose', ἐελμένος, ἐλυσθείς (A47, Zenodotos), *o*-grade in οὐρανός : Skt. *vṛṇoti* 'cover', < **Aɷwe-l/r-*, **Awe-l/r-*.

εἴρω, ἐρέω, ῥητός 'say', Argive ἀϝρητενε 'says',[15] εὐείρω (Hes.) : Skt. *vratam* 'command', Lat. *verbum*, Goth. *waurd*, Hitt. *hwrta-* 'curse', < **xɷwer-/*xwer-*.

ἕκηλος alternating with εὔκηλος 'quiet' : Skt. *okas* 'agreement, rest', Lith. *úkis* 'rural property', < **Aeuk-/*Awek-*.

ἑκών 'willing' : Skt. *vaśmi* 'I wish', Hitt. *wekzi* 'asks, desires', < **'wek-*, though no forms with 'prothesis' can be cited.

ἕλδομαι, Hom. ἐέλδομαι, ἔλδωρ, ἐέλδωρ 'wish, desire' : Skt. *vṛ-* 'choose', Lat. *volō*, *voluptās*, Lith. *vẽlyti*, NE *will*, <**gɷweld-/*gweld-*, with fourth laryngeal inferred from the consistent lack of aspiration.

ἔλπομαι, Hom. ἐέλπομαι 'hope, expect'. The spiritus asper is seen in the inscriptional ΗΕΛΠΙΔ' and ΑΦΕΛΠΙΖΕΙ,[16] though these may be analogical and the root related to the preceding with a *-p-* extension.

[12] Origines 155.

[13] Cf. Sturtevant. A Hittite Glossary[2] s.v.

[14] De Hettitische *ḫ* 14, 24 f.

[15] Cf. F. Solmsen, Untersuchungen zur griechischen Laut- und Verslehre 236.

[16] Cf. K. Brugmann, IF 16.492, and F. Sommer, Griechische Lautstudien 107–8.

εἴλη, ἕλη, εἰλη 'gleam of the sun' < **Aϝwel-/*Awel-*.

ἕννυμι 'wear', εἷμα, ἱμάτιον 'garment', ἑανός 'fit for wearing, fine' : Lat. *vestis*, Goth. *wasti*, NE *wear*, Hitt. *wassi-*, < **ϝwes-*. Theme I (**ϝau-*) is seen in Lat. *induō*, *exuō* 'put on, off', and in Lith. *aviù* 'wear footgear'.

ἔργω, Hom. ἐέργω, Att. εἴργω 'shut in, enclose' : Skt. *vrajas* 'enclosure', Lat. *urgeō* (Theme I), Goth. *wrikan* 'press on, torment', < **Aϝwerg-/*Awerg-*. A form **ἔργω* must be posited to account for such forms as ἄφερκτος (Aeschylus, Septem 445) and ἕρξας (Plato, Politicus 285B), though εἴργω (< **ϝεργω*) with 'prothesis' instead of aspiration was dominant and influenced ἔργω. The latter, however, may be analogical to ἔργω 'work' with smooth initial *w-*.

ἕρση, Hom. ἐέρση 'dew' : Skt. *varṣati* 'it rains', < **Aϝwers-/*Awers-*.

ἕσπερος 'evening' : Lat. *vesper*, Att. ἕως 'dawn'; Theme I appears in Hom. ἠώς (< **αϝσως*), Aeol. αὔως, αὔριον 'morning', Lat. *aurōra*, Lith. *aušrà*, Hitt. *auszi* 'he sees'. Root **ϝau(s)-*, **ϝwe(s)-*.

ἑστία 'dwelling, foyer' : Lat. *Vesta*, Goth. *wists* 'abode', Hitt. *hwes-* 'live', *hwesas* 'alive, raw', < **xwes-*.

ἶσος, Hom. ἴσος, and the occasional ἴσος indicate the presence of the phoneme *hw* initially, though the etymological connections are uncertain (cf. Boisacq).

ὠρακιάω 'faint', ὦρος 'sleep', Sapph. ἄωρος : OE *wērig*, < **Aϝwer-k-/*Awer-k-*.

There are, of course, other words that once had an initial laryngeal before *w*, but these either do not occur with the zero grade of the first syllable which would result in aspiration (as ἀείδω/αὐδή), or else, by Grassmann's law, they are unable to show aspiration (as ἄεθλον/ἆθλον).

III. Laryngeal Reflexes in Homer

This section is so entitled because the phenomenon involved is specifically Homeric, though it also manifests itself elsewhere. As we have noted above, there is a class of words that should show 'prothesis' in Greek, but do not; and we have tentatively ascribed this anomaly to the presence of the fourth laryngeal in initial position. That is, after the proportion *augeō* : αὐξάνω = *vakṣayati* : ἀρέξω we should expect a similar proportion *ambhas* : ἀφρός = *nabhas* : **ἀνεφος*. But **ἀνεφος* does not exist; instead we have νέφος with a long initial *ν*, at least one that 'makes position' in Homer. Similarly we have λαπαρός 'slack, soft', λαπάρα 'soft part of the body', λαπάζω 'weaken, ravage' : Skt. *alpas*, Lith. *alpnas* 'little, weak'; αλαπάζω 'empty, make poor' is either from a different root with initial *x* instead of *ϝ* or else it is in Theme I. The long voiceless λ is seen also in λίπος 'fat', λιπαρός 'anointed, sleek' : Skt. *limpati* 'anoints'; ἀλείφω 'anoint' is a root doublet. λόφος 'crest, tuft, ridge' : ἀλφός 'white spot', Celt. *Alpēs* 'white mountains', Lat. *albus*, OHG *elbiz* 'swan', Hitt. *alpas* 'cloud'. A long voiceless *μ* is seen in μαλακός 'soft' : Lat. *molō*, Hitt. *malai* 'make soft, grind'. All of these words, as well as a few more,[17] make position, hitherto inexplicably, in Homer. Some examples follow.

[17] A complete catalog can be found in La Roche, Homerische Untersuchungen 49 ff. There are a few exceptions in stereotyped phrases such as *χρυσείοισι νέφεσσιν* (N 525) and *δεινὸν δὲ λόφον* (Λ 40). Μάστιξ, with no sure etymology, probably belongs here, and *μέγας* also makes position, though there is no other evidence for an initial laryngeal. (This word may have had *σ*-movable after *σμικρόν*).

νέφος and νεφέλη : Skt. *ambhas*:

παντοίων ἀνέμων, σὺν δὲ νεφέεσσι κάλυψε (ε 293)

.....ποτὶ νέφεα σκιόεντα (θ 374)

.....ἐπὶ δὲ νεφέλην ἔσσαντο (Ξ 350)

λαπάρη : Skt. *alpas*:

ἀντικρὺ δὲ παραὶ λαπάρην διαμῆσε χιτῶνα (Γ 359)

.....αὖτα κατὰ λαπάρην..... (Z 64)

λίπος, λιπαρός : Skt. *limpati*:

αἰεὶ δὲ λιπαροὶ..... (ο 331)

.....ἀλείψατο δὲ λίπ' ἐλαίῳ (Ξ 171)

λόφος : ἀλφός, Lat. *albus*:

ἄκρον ὑπὸ λόφον..... (N 615)

μαλακός : Lat. *mollis*:

εὐνῇ ἐνὶ μαλακῇ..... (K 75)

In view of the fact that what cognates we have in Theme I for the above words show initial *a-*, and in particular Hitt. *alpas* 'cloud' : ἀλφός 'white spot', where the initial *a-* instead of *ha-* indicates the second laryngeal, I have assumed that all of these words have initial λ̄, μ̄, ν̄ (*hl, hm, hn*) as a result of *ɜ* + *l, m, n*. There is no reason why the other two voiceless laryngeals ' and *x* should not have caused this phenomenon also, as was the case with *w* and *y*; I simply know of no examples to prove it. Sturtevant[18] has called my attention to the actual spellings λ*h*, μ*h*, etc. for the long, voiceless liquids and nasals in dialectal inscriptions, though generally they result from a lost initial *σ*. Finally, this phenomenon must be of Indo-Hittite origin, though Greek is the only language I know of that gives anything in the nature of proof. Hitt. *nepes* and *malai* once had an initial *ɜ*, and the *n, m* in these words may have been long and voiceless too, but there is nothing in the writing of them to indicate it. At any rate, it is gratifying to have the last major problem in Homeric versification solved by the laryngeal hypothesis.

[18] Cf. The Pronunciation of Greek and Latin[2] 63–4 (Linguistic Society, 1940).

THE VERSCHÄRFUNG IN GERMANIC

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[This article assumes that the Germanic phenomenon known as Verschärfung was due to the IE long voiceless semivowels *hj* and *hw* with an immediately following accent. These semivowels, in turn, resulted from an IH laryngeal consonant immediately preceding IH *w* or *j*.]

In Germanic many words show what seems to be a doubling or some other type of strengthening of IE intervocalic *j* and *w* after short vowels to produce *jj* and *ww*.[1] Whatever the exact phonetic nature of the resulting product may have been, we seem to be dealing in each case with two phonemes. West Germanic takes the first of the new phonemic entities and vocalizes it, allowing it to coalesce with the preceding short vowel to form a diphthong. Norse and Gothic, on the other hand, are alike in turning the first phoneme into a stop, both dialects showing *ggw* for the words with Gmc. *ww*; but they differ as to the representation of Gmc. *jj*, with *ggj* and *ddj* respectively. Perhaps, as Prokosch[2] suggests, '. . . originally at least the pronunciation was probably the same, namely, a palatal stop followed by a spirantic glide (similar to *gy* in Magyar).' However, as we shall see later, there is evidence that Norse represents the original phonetic development while Gothic shows the result of later assimilation.

The phenomenon just described has long been a phonological puzzle, and under the designation of either Holtzmann's Law or the Verschärfung of medial *j* and *w*, numerous attempt have been made to explain it or limit the conditions under which it could have occurred,[3] since not all medial *j*'s and *w*'s are affected. The position of the IE accent has generally been held responsible for the seemingly strengthened articulation, and two main theories of accent position have been developed. The first is represented by Holtzmann[4] and Kluge,[5] who assumed that Verschärfung occurred when the accent was on the full grade vowel of the root immediately preceding the *j* or *w*. Diametrically opposed is the view held by Mikkola in his article Die Verschärfung der intervokalischen *j* und *w* im Gotischen und Nordischen, Streitberg Festgabe 267–71, where it is assumed that the accent had to be immediately following the *j* and *w* for Verschärfung to take place. This is the explanation adopted by Hirt (see footnote 3).

To endeavor to account for the facts solely by the position of the IE accent

[1] This article is a revision of the central portion of my doctoral dissertation (Princeton University, 1938). I wish to express my great indebtedness to Prof. E. H. Sturtevant and Dr. W. M. Austin of Yale University for their help in bringing my work up to date.

[2] E. Prokosch, A Comparative Germanic Grammar 92 (Linguistic Society of America, 1938).

[3] For a convenient bibliography, see H. Hirt, Handbuch des Urgermanischen 1.113; also Prokosch, Comp. Gmc. Gr. 93.

[4] A. Holtzmann, Altdeutsche Grammatik 1.109.

[5] F. Kluge, Beiträge zur Geschichte der Germanischen Conjugation 127–30; Urgermanisch 3.75; Quellen und Forschungen 32.127.

would seem, then, quite fruitless, and Brugmann (Grundriss² 1.283) felt himself forced to assume that the *j* and *w* were doubled originally, though how or why he is not able to make clear. Therefore a hypothesis that would give reasons for an original doubling (or a phonemic and phonetic equivalent) and would also give an exact statement as to the position of the accent would seem to be desirable.

The writer believes that this explanation can be given only in the light of the new knowledge of IE phonology furnished by the laryngeal hypothesis. He believes, in short, that in pre-IE times, when the laryngeal consonants were lost, leaving their impress on the vocalic and consonantal system, they produced, under certain accentual conditions, a new series of semivowels.[6] Although the exact phonetic nature of these new IE phonemes is still uncertain, they can probably best be described as long voiceless semivowels[7] with strong aspiration, and from the Germanic evidence the writer feels they were actually clusters of two phonemic entities, the aspiration being the first. The purpose of this article is to establish two of these IE long voiceless semivowels, namely *hw* and *hj*, as being responsible for the Germanic phenomenon of Verschärfung.

Table 1 will serve to show at a glance the development of an IH dissyllabic base containing a laryngeal consonant, and will make apparent the accentual conditions under which the long voiceless semivowels resulted. In the table, *C* = any consonant, *e* = any full grade vowel or diphthong, and *A* = any laryngeal.

TABLE 1

Base type ***-CeAeC-*

A	IH *-CéAC-*	> IE *-Cé̯C-*	cf. OE *glōwan* 'glow', Skt. *dhávati* 'runs', Gk. *θήω* 'run'.
B	IH *-CъAC-'*	> IE *-CəC-'*	cf. Skt. *sthitás*, Gk. *στατός*.
	But when the consonant following the laryngeal was *j* or *w*: IH *-CъAj/w-'* > IE *-Cəhj-'*, *-Cəhw-'*.		

It is the state of things represented in the last line of the table, then, that is responsible for the long voiceless semivowels *hj* and *hw*. It is the writer's contention that these sounds were affected by the operation of Verner's Law to

[6] This represents a quite different evaluation of the situation from the one put forth in my dissertation, where I stated that an actual laryngeal consonant was preserved as a distinct phoneme in the pre-Gmc. period, and probably lasted to Gmc. times, when, under the accentual conditions described, it was later assimilated to the nature of the immediately following consonant.

My views on the laryngeals now differ only slightly from Sturtevant's, cf. LANG. 16.81–7, 179–82, 273–84; 17.1–11, and references.

[7] Sturtevant and Austin believe in the existence of an entire series of long voiceless semivowels, though neither has as yet cared to commit himself as to their phonetic or phonemic nature. Cf. Austin's article, The Prothetic Vowel in Greek, LANG. 17.83 ff., for some of the Greek evidence for the assumption of these new phonemes.

produce PGmc. [γj] and [γw], where [γ] is a voiced velar spirant. These combinations, [γj] and [γw] respectively, had a different history in West Germanic on the one hand, and in the other two branches of the Germanic family on the other, for in West Germanic the velar spirant soon became assimilated to the nature of the following semivowel and the first element of the new combination became vocalized and coalesced with the preceding short vowel to form a diphthong. In Norse and Gothic, the velar spirant of [γw] was turned into a velar stop [g], the whole written *ggw/v* in both languages; and [γj] became [gj], written *ggj*, in Norse. In Gothic the product of [γj] was written *ddj*, but this seems almost surely to represent some form of later assimilation. The phonetic character of this later development may well have been a palatal stop followed by a spirantic glide (similar to *gy* in Magyar), as Prokosch points out (see above) though either [ddʒ] or [dʒj] would seem to be a more understandable phonetic development. In any case the writer must take exception to Prokosch's statement that these palatal sounds were the original development and that the Norse velar stop plus palatal glide shows a later state of affairs.

The above description seems to be the one most in accord with accepted phonetic theory, though another phonetic development is possible: that after the operation of Verner's Law the velar spirant became everywhere in Germanic assimilated to the nature of the following semivowel and that the characteristic developments traced above for the three divisions of the Germanic family stemmed from PGmc. [ww] and [jj]. Though this is a possibility, it does not seem to be nearly as convincing as the development shown in Table 2.

TABLE 2

IE *hj* > Gmc. [γj]
- West Gmc. [jj] > [ɪj]
- North Gmc. [gj]
- East Gmc. [gj] > [ddʒ] or [dʒj]

IE *hw* > Gmc. [γw]
- West Gmc. [ww] > [ʊw]
- North Gmc. [gw]
- East Gmc. [gw]

In what follows, the words showing Verschärfung are analyzed according to Tables 1 and 2. The letters **A** and **B** refer respectively to the first and the second position of the IH accent according to Table 1.

1. **A** IH **ghléAw-*, **ghlóAw-*[8] > IE **ghlḗw-*, **ghlṓw-* > OE *glōwan* 'glow'.

B IH **ghlɔAw-'* > IE **ghlǝhw-'* > Gmc. **glaγw-'* > Goth. *glaggwō* 'strict'; ON *glǫggr*, *glǫggr* 'strict, clear'. WGmc. **gláww-* > **gláuw-* > OE *glēaw* 'skillful, wise'; OS *glauuuorro* 'the wise', OHG *glauwēr* 'wise'.

2. **B** IH **ghluAw-'*[8] > IE **ghluhw-'* > Gmc. **gluγw-'* > ON *gluggr* 'window'.

3. **A** IH **kéAw-*, **kóAw-*[9] > IE **kḗw/u-*, **kṓw/u-* > Lith. *káuju*, *káuti* 'strike'; Lat. *cūdō* < **caudō* 'smite'.

[8] Walde-Pokorny, Vergleichendes Wörterbuch der indogermanischen Sprachen (WP) 1.627.

[9] WP 1.330.

B IH **kъAw-'* > IE **kəhw-'* > Gmc. **haγw-'* > ON *hǫggva* 'hew'. WGmc. **háww-* > **háuw-* > OE *hēawan*, OS *hauwan*, OHG *houwan* 'hew'.

4. **A** IH **dhéAw-*, **dhóAw-*[10] > IE **dhḗw-*, **dhṓw-* > Skt. *dhávati* 'runs'; Gk. *θήω* 'run'.

B IH **dhъAw-'* > IE **dhəhw-'* > Gk. *θέω* 'run', *θοός* < *θοϝός* < 'rapid'; Skt. *dhávate* 'runs'. Gmc. **daγw-'* > ON *dǫgg* (gen. *dǫggvar*) 'dew'. WGmc. **dáww-* > **dáuw-* > OE *dēaw*, OS *dau*, OHG *tou* 'dew'.

5. **B** IH **skъAw-'*[11] > IE **skəhw-'* > Gmc. **skaγw-'* > WGmc. **skáww-* > **skáuw-* > OE *scēawian*, OS *skauwon*, OHG *scauwon*, *scouwon* 'show'.

6. **B** IH **skuAw-'*[11] > IE **skuhw-'* > Gmc. **skuγw-'* > Goth. *skuggwa* 'mirror'. WGmc. **skúww-* > **skúuw-* > OE *scūwa*, OHG *scūwo* 'darkness'. Though Holthausen, Walde-Pokorny, and others list these last-mentioned forms with *u*, in the light of the above it would seem that a long vowel is required.

7. **A** IH **óAw/j-om*[12] > IE **ṓwom*, **ṓyom* > Gk. *ᾠον*, *ᾠιον* (Sappho); Lat. *ōvum* 'egg'.

B IH **ъAj-óm* > IE **əhj-óm* > Gmc. **aγján* > Goth. **addja*, cf. Crimean Goth. *ada* 'egg'; ON *egg*, whence NE *egg*. WGmc. **ájjan* > **áijan* > Prehistoric OE **ǣj* > OE *ǣġ* 'egg'.

8. **A** IH **dhéAj-*[13] > IE **dhḗj-* > Gk. *θηλή* 'nipple'; Lat. *fēlāre* 'suck'; OHG *tāju*, *tāan* 'suckle'.

B IH **dhъAj-'* > IE **dhəhj-'* > Gmc. **daγj-'* > Goth. *daddjan* 'suckle'. WGmc. **dájj-* > **dáij-* > Preh. OE **dāj-* > OE *dǣġe* 'dairy servant', NE (Scotch dial.) *dey* 'servant', *dairy*.[14]

9. **B** IH **dwъAj-'*[15] > IE **dwəhj-'* > Gmc. **twaγj-'* > Goth. (gen.) *twaddjē* 'of two'; ON *tveggja*; OE *twēġ(r)a* (for **twǣġra*) where *ē* has been substituted through analogy with *twēġen*, the most frequent form of the nominative, which also occurs as *twǣġen*.[16]

10. **B** IH **wъAj-'*[17] > IE **wəhj-'* > Gmc. **waγj-'* > Goth. *waddjus* 'wall'; ON *veggr* 'wall'. WGmc. **wájj-* > **wáij-* > Preh. OE **wāj* > OE *wǣġ* 'wall'.

11. **A** IH **bhléwAw-*[18] > IE *bhléuw-* > Gmc. **bléuw-* > OHG *bliuwan* 'strike'.

B IH **bhluAw-'* > IE **bhluhw-'* > Gmc. **bluγw-'* > Goth. *bluggwans* 'struck'. *Bliggwan* 'strike', of course, shows analogical restoration of the full-grade vowel. WGmc. **blúww-* > **blūw-* > MDutch *blūwen* 'strike'.

[10] WP 1.834; E. Boisacq, Dictionnaire étymologique de la langue grecque[2] (B) 334 (Heidelberg and Paris, 1923).

[11] WP 1.369–70; S. Feist, Vergleichendes Wörterbuch der gotischen Sprache[3] (F[3]) 431, 435 (Leiden, 1939); E. Kieckers, Handbuch der vergleichenden gotischen Grammatik (KG) 43 (München, 1928).

[12] WP 1.21–2; F[3] 2; A. Walde, Lateinisches etymologisches Wörterbuch (W) 440 (*ōvum*), etc. (Heidelberg, 1906).

[13] F[3] 112 (*daddjan*); Mikkola, Verschärfung, Streitberg Festgabe 267.

[14] NED s.vv. *dey*, *dairy*.

[15] WP 1.819; Mikkola 268.

[16] E. Sievers (transl. A. Cook), An Old English Grammar[3] 235 (Boston, 1903).

[17] Mikkola 268; F[3] 538–9.

[18] F[3] 100; J. Franck, Etymologisch Woordenboek der nederlandsche Taal[2] 74 s.v. *blouwen* ('s Gravenhage, 1929).

12. **B** IH **prɔAjós*[19] > IE **prəhjós* > Skt. *priyá*, 'beloved'; Gk. *πρᾱ́ος* < *πραιος*.

B IH **priAj-'*[20] > IE **prihj-'* > Gmc. **friγj-'* > ON *Frigg*, *friggjar-dagr* 'Friday'. WGmc. **frijj-* > **friij-* > **frīj-* > OE *frīġe-dæġ*, OHG *frīa-tag*, *frīje-tag* 'Friday'. The relationship between ON *friggjar-* and Skt. *priyá*, Gk. *πρᾱ́ος* is, of course, similar to that between ON *gluggr* 'window' and ON *glǿggr* 'clear'; that is, the first form comes from the simple vowel, the second from the diphthong.

13. **B** IH **iAj-'*[21] > IE **ihj-'* > Gmc. **iγj-'* > Goth. *iddja* 'went'.

14. **A** IH **bhréwAw-*[22] > IE **bhréuw-* > Gmc. **bréuw-* > OE *brēowan*, OS *breuwan*, OHG *briuwan* 'brew'.

B IH **bhruAw-'* > IE **bhruhw-'* > Gmc. **bruγw-'* > ON *brugga* 'brew', OSw. *bryggja* < **bryggvja* 'brew'. WGmc. **brúww-* > **brúuw-* > **brū́w-* > MD *brūwen* 'brew'.

Forms showing double development in Type **B** accentuation:

15. **A** IH **réAw-*, **róAw-*[23] > IE **rḗw/u-*, **rṓw/u-* > Lith. *ráuju*, *ráuti* 'tear out'.

B IH **rɔAw-'* > IE **rəhw-'* > Gmc. **raγw-'* > ON *rǫgg*, *rǫggr* 'long coarse wool'. Closely allied to this is the root

B IH (**réwAw-*), **ruAw-'* > IE **ruhw-'* > Gmc. **ruγw-'* > Swedish *rugg* 'shaggy hair', Norwegian dialect *rugga* 'carpet of shaggy hair', whence NE *rug*. WGmc. **rúww-* > **rúuw-* > **rū́w-* > OE **rūwa* 'coarse wool covering, tapestry', OS *rūwi* 'rough pelt', MD *rūwe* 'rough, hairy'. But there is a double development of IH **ruAw-'*, for we find ON *rýja* 'pluck wool' with a long vowel. This would come from Gmc. **rūw-* < IE **rūw-*. The reason for this double development in IE is baffling, and the writer has no solution for it. Perhaps the answer is to be found in an accent shift in certain classes of words which returned the accent to the root vowel after the reduction of the diphthong in time for the laryngeal to lengthen the *u* in pre-IE times, or perhaps in the syllabification of roots containing laryngeals, or in something analogous to Sievers' Law. Whatever the explanation, the phenomenon is found throughout IE, though its workings are particularly evident in Germanic. Not only do we find it in roots with *w* or *j*, but also in such doublets as OE *cnotta*, ON *knūtr* 'knot'; OE *cnyttan*, ON *knýta* 'knit'. The writer feels certain, too, that the *ū*'s in the 2d class of strong verbs can be explained when this double development is clear, where one finds, for example, OE *sūpan*, ON *sūpa* 'sup, sip' beside OE *soppe* 'sop' and ON *soppa* 'Weinsuppe'.[24]

[19] WP 2.86–7; Mikkola 268; B 809. Sturtevant will soon publish an article dealing with the alternation IH *-ɔ́ːjós* > IE *-əhjós* > Gk. *-αιος* : IH *-áːjō* > IE *-ājō* > Gk. *-ᾱω*. (Here ː is the symbol for the second laryngeal.)

[20] But cf. Mikkola 268, 270.

[21] WP 1.104; F[3] 288; Mikkola 268.

[22] WP 2.168.

[23] WP 2.352–3.

[24] Several of the words mentioned here are classified in my article in LANG. 14.95–103 (1938).

16. **B** IH **bhruAw-*'[25] > IE **bhruhw-'* > Gmc. **bruɣw-'* > ON *bryggja* 'pier, bridge'. With alternate development in IE, IE **bhrú(w)-* > Gk. *ὀφρῦς*, Skt. *bhrú-* 'eyebrow, eyelid, eyelash'. Gmc. **brû(w)-* > ON *brūn* 'eyebrow, brow of cliff'; OE *brū* (NA pl. *brūwa*, G pl. *brūna*) 'eyebrow, eyelash, eyelid', NE *brow*. Also undoubtedly ON *brū* 'bridge', *brūa* 'to bridge over'. In this connection it is interesting to note that the full grade forms OE *brǣw*, *brāw* 'eyelid, eyebrow', OS *slegi-brāwa* 'eyelid', OHG *brāwa* 'Braue', ON *brā* 'eyelash' go back to the closely related **A** IH **bhréAw-* > IE **bhréw-* > Gmc. **brǣw-*. OE *brēaw* could be an alternate spelling and pronunciation of OE *brǣw*, *brāw*, though it probably comes from **B** IH **bhrəAw-'* > IE **brəhw-'* > Gmc. **braɣw-'* > WGmc. **bráww-* > **bráuw-*.

Heretofore all etymologists have connected the full grade forms with IE **bherek̑-* 'shine, shimmer, have a light, fast motion' (cf. OE *bregdan* 'brandish') on the strength of OE (Anglian) *brēg* 'eyebrow' and OS *brāha* 'eyebrow', which (with *brǣw*, *brāw*, etc.) they assumed to be lengthened grade going back to a Gmc. **brēhwa*, **brezwā́*.

17. **A** IH **dréwAw-*[26] > IE **dréu(w)-* > Gmc. **tréuw-* > OE *trēow*, OHG *triuwa* 'truth'; OE *ge-trēow* 'true', *trēowian*, *trēowan* 'believe'.

B IH **druAw-'* > IE **druhw-'* > Gmc. **truɣw-'* > ON *tryggr* 'true', *tryggja*, *tryggva* 'make firm'. Goth. *triggws* 'true' and *triggwa* 'covenant' show analogical restoration of full-grade vowel from **truggws*, **truggwa*, cf. *bliggwan*, *bluggwans*. With alternate development in IE, IE **drû(w)* > Lith. *drútas* 'strong'; Gmc. **trû(w)* > ON *trūr* 'true', *trū*, *trūa* 'faith', *trūa* (vb.) 'trust'.

Since the following example is more complex, it may be treated somewhat differently.

Base type ***-CeAeC-*: IH ***bheweAeC-*:

18. **A** IH ***bhwéAC-* > IE **bhwā́-*[27] > Lat. impf. ending *-bā-m*; *o*-grade in Gk. *φώς* 'man'.[28]

B$_1$ (accent preceding: ***'-CeAeC-*) IH ***bhéwəA-C-* > IE ***bhéwə-t-* > Skt. *bhávitum*; Gmc. **beu-*, **bau-* > OE *bēon* 'be'.

B IH ***bhwəA-w-'* > IE **bhuhw-'* > Gmc. **buɣw-'* > ON *byggja* < **byggvja*[29] 'inhabit'. With alternate IE development, IE **bhuə-w-*, **bhū-* > Lith. *búti* 'be'; Gmc. **bū(w)-* > OE OHG *bū(w)an*, OS *būan*, ON *būa* 'dwell', OE OHG ON *būr* 'dwelling-place, bower'.

[25] WP 2.169, 206–7; F^3 103–4; H. S. Falk and Alf Torp, Norwegisch-Dänisches etymologisches Wörterbuch (FT) 1.44 s.v. *balderbraa* (Heidelberg, 1910); B 734–5; F. Holthausen, Altenglisches etymologisches Wörterbuch 32, 36 (Heidelberg, 1934).

[26] WP 1.804–5; B 201–3.

[27] The Latin evidence indicates the second or third laryngeal.

[28] See W. M. Austin, The Etymology of English *big*, LANG. 15.249–50 (1939).

[29] This word has caused difficulty mainly because a form containing a full grade vowel has been posited as its antecedent. But cf. the 7th class verb *hǫggva* 'hew' treated above. See FT 1.121 s.v. *bygge*, also WP 2.142.

THE DEVELOPMENT OF *-ivu* IN LATIN AND ROMANCE

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[The paper follows the development of the suffix *-ivu* in classical and medieval Latin and in the Romance languages, with the purpose of establishing the syntactic and semantic changes which it underwent and of determining the channels through which it filtered down from Latin into the vernaculars. Special attention is devoted to the substantival use of *-ivu*, as in Fr. *l'objectif*, *l'initiative*. See the summary at the end of the article.]

1. Professor Bally was undoubtedly justified in advocating the study of European stylistics as a discipline concerned with such features of style as are common to the whole community of European languages, irrespective of their origin and structure.[1] We may with profit concentrate upon those types of derivation which, by their use in linguistic systems tied together by cultural intercourse even more than by kinship, may well be looked upon as integral portions of a 'European word-formation'. One particularly curious type, represented in French by the two varieties *l'objectif* and *l'initiative*, is found not only in Romance, but also in borrowings absorbed by Germanic, Slavic, and even Finnish. As is generally the case with such widespread abstracts, it is traceable to Latin; but it has not yet been determined whether we owe this type to the classical or to the medieval stage of that language.

Our inquiry will be greatly complicated by syntactic problems arising in relation to the history of this type. Thus, *-ivus* was originally an adjectival suffix, whereas in more recent formations, such as *the objective*, it is seen to have developed a clearly substantival value. Now, it is the general belief among syntacticians that two entirely different processes may be involved in the shift of an adjective to a noun:

(a) The substantive to which the later emancipated adjective was originally subordinate may have been omitted as understood, as in Lat. (*faber*) *ferrarius* 'blacksmith', Fr. *la* (*ligne*) *droite* 'the straight line'.

(b) A quality denoted by an adjective may be regarded as independent of any object and, in this absolute sense, take over completely the functions of a substantive, as in Span. *lo bello* 'the beautiful', *el* and *lo infinito* 'the infinite'. No ellipsis is required for the explanation of the process.

The issue to be clarified here is in which of the two general categories we must place the functional change undergone by *-ivus*, and whether the separation between these categories is actually so rigid as to prevent a word from passing from one to the other.

We shall be supported in our lexicographical research by Breitmeyer's recent monograph on *-ivus* in Latin, which provides exhaustive and accurately classified material.[2] In considering the double form of the ending, scholars were at first misled into the assumption that a noun with which the adjective had agreed in

[1] Charles Bally, Traité de stylistique française 1.23 (Heidelberg, 1909).

[2] Jules Breitmeyer, Le suffixe latin -ĭvus; Genève, 1933.

gender was subsequently lost.[3] In contrast to this, Meyer-Lübke suggested that *-iva*, in Italian, be regarded as a regular suffix serving for the derivation of verbal abstracts,[4] and pointed out that the neuter plural *-ativum*, known to have had a great vogue in late Latin, might be regarded as the probable starting point. Unfortunately, he failed to investigate the question more at length in his subsequent writings, so that the entire problem will have to be considered anew.

In our own view, the spread of this type all over Europe must be thought of as an outgrowth of the increasing influence of Scholasticism throughout the later Middle Ages. Further, so far as syntax is concerned, we believe in the possibility of an original ellipsis which later gave way to a more independent use of the suffix and ultimately resulted in its unrestricted emancipation. To corroborate this contention, it will be necessary to show how a characteristic adjectival suffix *-ivus* originated in Latin, and under precisely what conditions it began to serve as a substantival suffix. Only then will the way be cleared for a recognition of the channels through which *-ivu, -iva*, in both functions, overflowed into the vernaculars.

2. In Latin, *-ivus* was, from the very beginning, an essentially verbal suffix, though in a few derivatives it could be added also to nominal stems. One of its main functions was to extend the *t* participle so as to give it durative coloring. Hence *abditivus*, in Plautus, means 'hidden for a long while', i.e. 'distant'. In time, this nuance became more and more accentuated. When referring to a person, *-ivus* began to indicate his permanent status rather than a merely temporary situation. Thus, *miles a(d)scriptivus* in the 2d century B.C. designated a 'reserve soldier', namely one who potentially could be called upon to enlist. In the same way, *captivus, fugitivus, nativus* denoted one who lived as 'a prisoner', 'a refugee', or 'a native'. This connotation made the type appear, in the long run, less appropriate for denoting living beings than for describing such things as fruits, wines, plants, grounds. As a matter of fact, it is in the scriptores rustici Cato, Varro, and Columella that we come across most of the preclassical formations such as *sativus* 'sown, planted', *lixivus* 'made into lye', *irrigivus* 'irrigated', *tortivus* 'squeezed out', *cucurbitivus* 'cucumber-shaped'. Apart from mere continuity (*absentivus* 'long absent'), the words conveyed many additional ideas, ranging from mere appurtenance (*sementivus* 'belonging to the seed') and potentiality (*cadivus* 'likely to fall') to inherent aptitude (*conditivus* 'suitable for preserving') and passivity (*strictivus* 'stripped off'). No single instance, however, is recorded of one of these older derivatives suggesting the idea of an operative force.

Not until Cicero added the suffix to abstract stems was there any real change. Working at the adaptation of Greek philosophic terminology to Latin, he was in urgent need of a convenient equivalent to *-ικός*. His decision went in favor of *-ivus*, because this as yet colorless and hence flexible element (incidentally bearing a notable outward resemblance to *-ικός*) was more serviceable to his

[3] Dict. Gén., Traité de la formation de la langue française 39.

[4] Wilhelm Meyer-Lübke, Italienische Grammatik 289 (Leipzig, 1890).

purpose than a more strongly marked ending. There is no tangible evidence to show that he intended *-ivus* to go beyond the indication of mere relation. Creations characteristic of this usage are *comparativus* 'pertaining to comparison', *translativus* 'belonging to transference', *ratiocinativus* 'relating to reasoning'. It is true that a few formations display a surprisingly active shading: *definitivus* 'explanatory', *internecivus* 'deadly', *lucrativus* 'gainful', but then it should not be forgotten either that they are more than counterbalanced by others, indubitably implying the old passive or neuter value: *insitivus* 'ingrafted', *instaurativus* 'renewed', *stativus* 'stationary'.

If Cicero was cautious in assigning a new value to *-ivus*, the one decisive thing he did was to bring the suffix into the orbit of a foreign element. Now, *-ικός*, also having an unstable function, was in its turn gradually developing from a neuter into an active ending,[5] and so forced *-ivus* into this shift. The subsequent break in the natural growth of the latter accounts for two facts of paramount importance:

(a) Henceforth, its transvaluation in literary Latin was to parallel the continuous Hellenization of Roman culture. Above all, the philosophic (and, with the propagation of Christianity, also the theological) language, dealing by preference with the agency of permanent basic forces, made it more and more desirable that *-ivus* should assume at once active and durative coloring.

(b) At this point, a final divorce occurred between the functions of *-ivus* in literary and in colloquial Latin, according as the one was affected by foreign influences and the other clung to the native tradition.

From that time on, the learned and the popular varieties must be treated separately. The subsequent developments of the former group, which mainly comprises Grecized, abstract, active formations, can be followed through the whole late Latin literature down to the Middle Ages. Conversely, written sources are silent on the survival of the older (genuinely Latin, concrete, passive-

[5] The development in Greek has been outlined by E. Fraenkel, Beitraege zur Geschichte der Adjektiva auf *-τικός*, Zeitschrift für vergleichende Sprachforschung 45.205–24 (1913), whose explanation has been subsequently endorsed by Albert Debrunner, Griechische Wortbildungslehre 197–200 (Heidelberg, 1917). Ever since recourse was had to the suffix, it served to express relation, but, unlike *-ivus*, chiefly that of an inanimate object to a person, e.g. *Τρωϊκός* 'Trojan' (Homer); *παιδικός* 'belonging to a child' (preclassical), *μαντικός* 'characteristic of a soothsayer' (classical). A notable increase in the use of the element paralleled the growing predilection for complicated definitions among the Sophists. From them, it was taken over by Athenian society and ultimately adopted by Plato and Aristotle. By that time, the suffix, in addition to its traditional neuter signification, began to develop an active one. Thus, *ἐνθουσιαστικός*, aside from 'being in raptures', came to mean 'enrapturing'; *ἐκπληκτικός* meant 'amazed' and 'amazing', *κινητικός* 'movable' and 'motive', *παθητικός* 'sensitive' and 'arousing a feeling', *φυλακτικός* 'cautious' and 'preserving', *διψητικός* 'thirsty' and 'making thirst', *ὑπνωτικός* 'drowsy' and 'producing sleep', *ἀφροδισιαστικός* 'given up to love' and 'exciting love', *πιστευτικός* 'confident' and 'awakening confidence'. The transition to the active connotation may have been achieved through the instrumentality of such ambiguous adjectives as *ὑγιεινός* 'healthy', as shown by *ὑγιεινὸν σῶμα* 'body being healthy' beside *ὑγιεινὸς τόπος* 'place making healthy'. It should be observed that the substantivized forms *κριτική (τέχνη)* 'criticism', *μουσική (τέχνη)* 'music', *ῥητορική (τέχνη)* 'rhetoric' split off before the turning point in the syntactic development of *-ικός*, in contradistinction to what happened in the case of *-ivum, -iva*.

neuter) type. That it must nevertheless have continued to spread in the lower strata of the population, being handed down orally by settlers and farmers, is evidenced by virtually all Romance dialects.

Nothing is more indicative of this fundamental reversal of the original state of affairs than the subsequent transvaluation of the older Latin vocabulary, as can be aptly illustrated by the following pairs of meanings:

incentivus	'setting the tune, superior' (Varro)
	'inciting' (Prudentius, Ennodius)
intergerivus	'intermediate' (Pliny)
	'separating in the midst' (Pomp. Festus)
subiectivus	'pertaining to the subject' (Tertullian)
	'rendering dependent' (Priscian)
opt(at)ivus	'chosen' (Horace)
	'expressing a wish' (Charisius, Priscian)
dubitativus	'doubtful' (Tertullian)
	'expressing a doubt' (Priscian)
provocativus	'irritable, irascible' (Tertullian)
	'provoking' (C. Aurelianus)
conceptivus	'that is conceived' (Tertullian)
	'that is conceiving' (Venantius Fortunatus)

The attitude of Tertullian is particularly noteworthy. It shows that long after the active meaning had become dominant, writers were still free to resort, upon occasion, to neologisms patterned after the older passive type. Though the memory of the previous signification survived, it was at best strong enough to slow down but not to check the new trend, and in numerous cases hesitation necessarily ensued.[6]

3. Now that we are aware of the change which the adjectival *-ivus* underwent in Latin, we may revert to the problem of its use in substantives. Much apparently pertinent material can be dispensed with, since, on closer inspection,

[6] Fortunately, we are in a position to recognize each single advance and retreat in this slow progress. Gellius, who lived in the 2d century, goes along the new path when in need of grammatical terms: *connexivus* 'tending to connect', *disiunctivus* 'expressive of disjoining', *frequentativus* 'denoting repetition', *pluralivus* 'designating the plural', *privativus* 'causing privation', *vocativus* 'used in calling'. He clings to the old function when hampered by an antonym: *infestivus* 'not agreeable' after *festivus* 'pleasant, gladsome'. Apuleius seeks to reconcile both shadings in his well-balanced style. He conforms to the new rule in forming *declarativus* 'elucidative', *dedicativus* 'affirmative', *illativus* 'conclusive', *negativus* 'negative', while he is tolerant of *substitutivus* 'subordinate' and suffers *passivus* to retain its neuter connotation. On the evidence of *comminativus* 'threatening' and *confirmativus* 'confirmative', Tertullian seems to adhere to the modernists, but for all that he does not discontinue to employ words built up after the old pattern: *substantivus* 'substantial', *inerrativus* 'unutterable', *putativus* 'supposititious'. It is only in the writings of the physician Caelius Aurelianus that the factitive function has been generalized: *corporativus* 'strengthening', *districtivus* 'relaxing', *mitigativus* 'soothing', *mordicativus* 'stinging', *evaporativus* 'producing evaporation', *interfectivus* 'causing death', *resumptivus* 'fit to restore', *vexativus* 'making suffer'. See Frederic T. Cooper, Word-Formation in the Vulgar Sermo Plebeius 105-9 (New York, 1895).

it is not likely to yield any clue to our particular question: how such words came into being as Fr. *la directive* 'rule of conduct', *l'imaginative* 'imaginative power' or It. *l'allettativa* 'attractiveness', *l'aspettativa* 'expectation', *l'annunziativa* 'announcement'. Obviously, *lixivum* 'juice of olives not yet pressed' (Columella), *subsecivum* 'small piece of ground not yet surveyed' (Varro); *exortiva* 'Eastern countries' (Pliny); *in vindemiarum festivo* 'in the midst of the joys of the vintage' (Lampridius), *subseciva temporum* 'leisure hours' (Quintilian) represent shifts to local and collective nouns or else syntactic figures usual in any Latin adjective. They can hardly be supposed to have touched off a new trend in the development of a particular suffix.

The real starting points are to be found in isolated collocations of technical languages. Here alone, within the professional sphere, an ellipsis may reasonably be taken for granted. 'Medicine' in the speech of the physician, 'agent' and 'faculty' in the philosopher's, and 'word' or 'sentence' in the grammarian's are common denominators applied to a great many terms, and, if dropped, are quickly supplied by the initiated interlocutor or reader.

In Juvenal, *abortivum* denoted a 'means of producing an abortion', and carried with it a reminiscence of *medicamen* 'remedy'. But Pliny already used the same term as meaning 'abortion' itself, hence an event. For Quintilian, *deliberativa* 'deliberative' probably rested on the half submerged idea of *pars* or *causa*, which subsequently disappeared entirely. *Praerogativa* 'prerogative' was originally related to the century first admitted to the vote, but, through the medium of such ambiguous constructions as *ad praerogativam ire*, it soon came to imply the first or preliminary election itself (Livy) and ultimately acquired the wider sense of 'advantage, privilege' (Ulpianus, Eumenius).

Among the technical languages, none proved more influential in adding to the independence of the suffix than that of the grammarians. Of major importance is the feminine form, which was originally related to either *particula* or *coniunctionis species*. It is at this initial stage that the supplementary terms could be, first tentatively and later constantly, ruled out as the self-understood common denominators. The next step was to extend the use of isolated *-iva* to the clauses as such, introduced by and named after the various conjunctions. Last came the attempt to interpret the formations so derived as indicative of the very modality of these clauses, a notion ordinarily expressed by the verbal abstract. Hence, scholars such as Donatus, the teacher of Hieronymus, or Dositheus, had no recourse but to put up a kind of equation between *negatio* and *negativa* 'the negative', *narratio* and *narrativa* 'the narrative', *affirmatio* and *affirmativa* 'the affirmative', *interrogatio* and *interrogativa* 'the interrogation', or, to quote less familiar cases, *indignatio* 'indignation' and *indignativa* 'expression conveying the idea of indignation', *invectio* and *invectiva* 'the invective'. There still remained a slight difference between the two sets, as the words in *-tio* preferably served to mark the process of the action, while those in *-tiva* were more profitably used of its result or product: *narratio* 'the fact of reporting' beside *narrativa* 'the content of a report'. The significance of this delimitation, however, was much reduced as a consequence of the incessant fluctuation and interchange between abstracts and concretes in Romance.

The responsibility of these forerunners for all the changes that ensued is that they familiarized the writers with the existence of independent *-ivum, -iva.* The significance of this fact was revealed, when an opportunity arose of ushering in a multitude of like formations. This happened when heightened interest in Greek philosophy called for the borrowing on a large scale of appropriate terms to classify principles and agents. These principles were systematized as qualities, but, since they manifest themselves through their respective agency, they partake of the adjectival and the verbal domain alike. Only a substantivized verbal adjective could satisfy the demand for such an intricate composite.

At the outset, it was not the form of the words that was of great import so much as the connotation of the primitives. *Generatorium* 'means of producing' (Ambrosius); *motorium, mobile, movens* 'motor force'; *agens* 'impetus' were different as to ending, but similar as to meaning. Step by step, however, the constituent elements began to assume a more individual function; *-orium* was confined to the expression of instrument or place, not unlike its vernacular counterpart (Fr. *-oir*, It. *-oio*, Sp. *-ero*, Ptg. *-oiro*). In contrast to this, *-ivum* and *-iva* retained a purely abstract value thanks in large part to those former outposts *abortivum, praeparativa, negativa,* but counter to the development of the suffix in popular speech.

It is remarkable how steadily the change of *-ivum* and *-iva* from unsubstantial, colorless endings to elements with a highly peculiar signification progressed throughout the Middle Ages. To anticipate the climax of this trend, note the following terms in the writings of Thomas Aquinas: *aestimativa* 'sensual power of judgment', *affirmativa* 'affirmative statement', *determinativa* 'determination', *disiunctiva* 'discernment', *imaginativa* 'imagination', *inventiva* 'exploratory part of logic', *memorativa* 'power of memory', *negativa* 'negation', *perspectiva* 'optics'. At this advanced stage in the development of the suffix, it would perhaps be hazardous to insist on the necessity of supplying one of the allegedly lacking nouns *causa* 'cause', *ratio* 'reason', *vis* 'force', *voluntas* 'will', *virtus* 'inward force', *potentia* 'power', *ars* 'art', *scientia* 'science'. They can easily be read into the text by the modern commentator, but it is not quite so easy to furnish convincing evidence that the author had them really in mind. On the other hand, how else than by assuming that the writers were no longer aware of any missing noun can the undeniably strange fact be accounted for that only feminine nouns should happen to be involved? The number of masculine abstracts, especially those ending in *-tus,* was not insignificant in Latin. Hence, after grammarians had suppressed *enuntiatio, oratio, propositio* for centuries in relation to *dubitativa, interrogativa, suppositiva,* and philosophers no longer exactly recalled the ellipsis of *vis* and *potentia* which they had started with, it is in the highest degree likely that this customary abridgment resulted in the practice of generally developing abstracts from verbs of spiritual and psychological content with *-iva* as a substantival suffix. Strong emphasis must be laid on the condition of spiritual or psychological relation. If modern European languages admit expressions referring to actions or attitudes of a different nature, such as *an offensive,* the last boundary separating the direct developments of Latin from merely Latinizing trends in more recent linguistic systems has obviously been

overstepped. Perhaps the terminology of disputation was transferred to strategy, conceived as military polemics.

While *-iva* was steadily approaching the value of either a potential force or pure action, *-ivum* rather lent itself to the expression of a principle, thus adhering more closely to the domain of adjectival abstracts: *apprehensivum* 'aggregate of sensual perceptions', *activum naturale* 'aggregate of natural agencies', *cognoscitivum* 'principle of recognition', *constitutivum* 'aggregate of constituents', etc. In contradistinction with the philosophical *-iva*, which hinged on *vis*, *virtus*, or *potentia*, no ellipsis underlay this variety, which can be traced back to the substantivized neuter as used by the Platonic and Aristotelian school: *appetitivum* 'aggregate of appetitive faculties' (*τὸ ὀρεκτικόν*); *intellectivum* 'principle of perceptive faculties' (*τὸ νοητικόν*); *nutritivum* and *vegetativum* 'principle of growth' (*τὸ θρεπτικόν*); *opinativum* 'principle of opinions' (*τὸ δοξαστικόν*); *ratiocinativum* 'principle of discursive conceptions' (*τὸ λογιστικόν*).

The preceding terms all occur in Thomas Aquinas and help us to an insight into the resources of medieval Latin at its highest. The earliest form probably is *donativum* 'largess', discovered in Tacitus and Suetonius and modelled on a Greek pattern. To judge from its direct and indirect descendants in Romance, it had time to seep into popular speech. The subsequent formations were strictly erudite. Tertullian contributed *antecessivum* and *corruptivum*,[7] whereas the vocabulary of Boethius contained the bulk of the innovations: *adiutivum*, *congregativum*, *conservativum*, *cooperativum*, *dissolutivum*, *generativum*, *medicativum*, *sanativum*, *susceptivum*. Hieronymus rendered *θυμιόν* by *irascitivum*. Various minor authors enriched the language with *adiunctivum*, *legativum*, *notivum*, and, later on, *motivum* and *mutativum*. It was in the adaptation of Aristotelian terminology that the most unexpected creations suggested themselves to ingenious and daring translators searching for adequate terms. Only in this imitative literature do we find a number of curious derivatives, such as *aedificativum*, *alterativum*, *ambulativum*, *auditivum*, *augmentativum*, *benefactivum*, *cognitivum*, *combustivum*, *contristativum*, *prohibitivum*, *sectivum*, *solitivum*. The very liberty of formation shows that these words no longer needed to be transferred to another word-class. Accordingly, no reluctance was felt to take a given word out of its original sphere.

From the time that the formations in *-ivum* began to multiply, they kept in close relation with a group of substantivized participles such as *efficiens* 'the efficient', *expediens* 'the expedient', *inconveniens* 'the inconvenient', *ingrediens* 'the ingredient', which also at a later date were absorbed by the vernaculars. This kinship somewhat restrained the development of *-ivum*. As a result, it remained an adjectival instead of a verbal abstract and at no time attained the free scope for change that belonged to the isolated *-iva*.

Beside the philosophical source for *-ivum*, there is a medical one. Here again, the common denominator *medicamen* 'remedy' was omitted in the technical discourse of the surgeons. The very uniformity of ending shown by the remaining adjectives *astrictivum* 'astringent', *attenuativum* 'laxative', *consolidativum* 'tonic',

[7] No translation is given of these philosophic terms, as they would require a lengthy paraphrasis; but they are linguistically quite transparent.

dormitivum 'dormitive', etc. led to the belief that *-ivum* in itself denoted a means or a remedy, just as the language had elements to express a place, an instrument, a person acting. Thus a suffix originally devoid of any characteristic value was given a definite, substantival function.

Now, certain circumstances threatened to efface clear distinction between the single groups. As the same adjective sometimes referred to nouns of different gender, several competing forms frequently remained after the elimination of the noun. In fact, if *comparativus* was related to *gradus* by Charisius, to *nomen* by Priscian, and to *vocabulum* by Gellius, there is little wonder that it should have ended alternately in *-ivus* and in *-ivum* when used absolutely.

With masculine and neuter hardly ever distinguished in Romance, such cases are of no major importance. In modern French, for instance, *-if* has simply come to serve as a formative for the expression of grammatical categories, regardless of whether *verbum, nomen, genus, numerus, gradus, modus,* or *tempus* is to be thought of as the original complement. This is particularly true with regard to a number of neologisms launched by scholars like Brunot or Damourette and Pichon: *le présentatif* (e.g. *voici, voilà*); *l'interpellatif* (e.g. *avançons; allons-y*); *le conjonctif* (e.g. *que, ce qui*), *le fonctif, l'affonctif, l'exclamatif.* In these cases there is no way of proving an ellipsis.

The situation, however, is entirely different when the masculine and feminine varieties compete, since here the conflict, for phonetic reasons, continued in Romance. Various scholia use *affirmativum,* while grammarians stick to *affirmativa,* and this applies also to the distribution of *confirmativum* and *confirmativa.* Macrobius wrote *activum,* supplying, by implication, *verbum*; but Boethius suggested *activa,* probably alluding to *pars philosophiae.* When in want of a term for 'the motive force', Boethius rightly chose *effectivum*; but Priscian, in adapting *effectiva* to the fading idea of *coniunctio,* was also justified. Sometimes, the same author is seen to use both forms, though not indiscriminately. Boethius was correct in using *perspectivum* of the principle and *perspectiva* of a scientific discipline; but it is clear that *-ivum* and *-iva* could easily become interchangeable in Romance as a result of the disappearance of any trace of the relation between the adjective and the implied noun.

4. The foregoing survey of the growth of *-ivu* in Latin has disclosed the starting points for all potential developments in Romance. In passing on to the new domain, it is useful to observe the following order: to begin with the vernacular, and to continue with the learned variety; within each group, to treat first the adjectival and then the substantival formations.

Frequency of vernacular *-ivu* varies considerably with each country. The suffix sometimes outgrew its originally narrow limits, sometimes receded completely into the background. This becomes understandable in the light of its competition with related elements, especially *-iceu* and *-oriu,* which are likewise added to the past participle. The more a linguistic community strove for unity, economy, and compactness, the less room there was for a coexistence of two or more parallel suffixes, and the stronger the trend was toward abolition of all but one of these types. Where the adjectival suffix has got no firm foothold, we must be prepared to encounter all the more numerous substantivized

forms. In this respect, Portuguese, known for its loose structure, should be compared with Castilian, which shows a stronger concentration of all resources. The former tolerates *escorregadiço* 'slippery' beside synonymous *escorregadio*; *corrediço* 'gliding, smooth' (of a door or window) beside *corredio* (of a knot, river, years, place, hair, business); the latter is satisfied with having *escurredizo*, *corredío* alone. Compare also[8] Ptg. *fugidio* : Sp. *huidizo* 'fleeing'; Sp. *sombrío* : Gall. *sombrizo* 'shady'; Ptg. *pastio* : Gall. *pastorizo* 'pasture'; Ptg. *cotio* 'fit for boiling' : Sp. *asadero* 'fit for broiling'; Gall. *bermellizo*, Sp. *rojizo*, It. *rossiccio* 'reddish'; Sp. *blanquizo*, It. *bianchiccio* 'whitish'; Sp. *verdizo* 'greenish'; It. *gialliccio* 'yellowish'; It. *azzurriccio*, *turchiniccio* 'bluish' : Rum. *albăstruiu* 'bluish', *albiu* 'whitish', *galbiniu* 'yellowish', *negriu* 'blackish', *suriu* 'greyish', *verḑuiu* 'verging upon green', *vineţiu* 'bluish'; Rhaet. *sablanif* 'sandy' : Sp. *calizo* 'calcareous', *pedrizo* 'stony'; various noises in It. *bollichio*, *borboglio*, *bisbiglio*, *chiaccherio*, *borbottio* (onomatopoetica) : OFr. *corneïz* 'winding the horn', *cliqueteïz*, *paleteïz*, *marteleïz* 'clanking', etc. Also note how Sp. *sequío* 'dry' has given way to *sequizo*, while surviving as 'unirrigated ground'.

The suffix which, competing with *-iceu*, has filtered down into the Romanic vernaculars is the pre-Ciceronian *-ivu*, rural as to its semantic sphere and neuter as to its grammatical function. We are forced to believe that it owes its expansion to the Roman settler. It is by keeping in mind its original rustic applications that we can best gain an understanding of the rather complex set of factors that are brought into play in the spread of this type.

The following clearly distinguished groups can be set off:

(a) Derivation from the past participle (continuation of the *tortivus* group): Ptg. *erradio* 'vagrant', *corredio* 'running', *resvaladio* 'slippery', *prestadio* 'advantageous', *lavradio* 'fit for tillage', *avessio* < **adversivu* 'contrary'; Gall. *camiño travesío* 'crossway'; Sp. *regadío* 'that may be watered'; It. *colatio* 'that may be melted', *solatio* 'exposed to sun'; OPr. *plantadiu* 'fertile'. The meaning can be either passive or neuter.[9]

[8] The following abbreviations are used in this article: Braz. = Brazilian; Camp. = Campidanese; Cors. = Corsican; E = English; Fr. = French; Gall. = Gallegan; It. = Italian; Leon. = Leonese; Log. = Logudorian; OFr. = Old French; OPr. = Old Provençal; Ptg. = Portuguese; Rhaet. = Rhaeto-Romance; Rum. = Rumanian; Sard. = Sardinian; Sp. = Spanish.

Dialectal material has been taken from Antonio Tiraboschi, Vocabolario dei dialetti bergamaschi[2] 1351 (Bergamo, 1873); L. Carré Alvarellos, Diccionario Galego-Castelán (A Cruña, 1933); Luis Carlos de Moraes, Vocabulário Sul-Rio-Grandense (Pôrto Alegre, 1935); Giacomo Schaad, Terminologia Rurale di Val Bregaglia 30 (Belinzona, 1936); C. Martin Lutta, Der Dialekt von Berguen 191–2 (Halle, 1923: ZRPh. Beiheft 71); Das neue Testament, erste rhaetoromanische Übersetzung von Jakob Bifrun 1560, ed. Th. Gartner (Dresden, 1913); Max Leopold Wagner, Das ländliche Leben Sardiniens im Spiegel der Sprache (Heidelberg, 1921: Wörter und Sachen Beiheft IV); F. D. Falcucci, Vocabolario dei dialetti della Corsica (Cagliari, 1915); Giorge Pascu, Sufixele Românești 221 (Bucureşti, 1916); Edward L. Adams, Word-Formation in Provençal 322–3 (New York, 1913); José de Lamano y Beneite, El dialecto vulgar salmantino (Salamanca, 1915), and others.

[9] Gall. *vadío* 'vagabond' had its *d* preserved through the influence of the words in *-adío*. Leon. *cansío* 'weary' developed from the now antiquated participial form *canso*. Rhaet. descendents of *fugitivu* had their initial consonant changed into another labial: *musdif*, *muštadif*. Ptg. *sadio* 'healthy' includes an active shading like its counterparts in other

(b) In neuter verbs, the *-nt-* participle can at times be used as a convenient substitute for the *-t-* participle, and since there is hardly any difference between Ptg. *erradio* and *errante* 'vagrant', it is only natural that the combination *-ntio* should have suggested itself, all the more so as *sementivus* already figured in the language: Gall. *manantío* 'flowing', Ptg. *doentio* 'sick', *correntio* 'running', It. *stantio* 'old, rancid', Rhaet. *laschantiv* 'idle', *sapientiv* 'unerringly true', *volentif* 'willing', Sard. *agantiu* 'shallow', *bakantiu* 'sterile', both < **vacantivu*; OFr. *pesantif* 'ponderous'; *donantif* 'of the donor'; *Veillantif* < *vigilantivu* (name of Roland's horse).[10]

(c) Direct addition of *-ivu* to the infinitive stem (*cadivus* type) is rare and, so far as genuinely Romance creations are concerned, due mostly to the desire of avoiding repetition of similar syllables—a kind of preventive haplology: Ptg. *cadio* 'overripe', Gall. *arredío* 'shy' < *arredar* 'to separate'. The area of *recidivu* (REW 7117) extends all over Rhaeto-Romance and North Italian (*risdif*, *raždif*, etc.), while that of *restivu* 'refractory' reaches out as far as France.[11]

(d) As a neuter participle, no matter how expressed, refers to quality rather than to action, it needed but a slight shift to bring about the transference of *-ivu* from verbal to adjectival stems: Gall. *largacío* 'spacious, vast', *montesío* 'mountainous'; Leon. *novalío* 'rank'; Sp. *bravío* 'ferocious', *tardío* 'late', *vacío* 'empty'; Swiss Italian *mulif* < *mollivu* 'watery';[12] Rhaet. *planekf* < *planivu* 'flat' (Berguen);[13] *gualif*, *valif* < *aequalivu* (REW 238); OPr. *umiliu* 'humble', *aspriu* 'rude', *autiu* 'haughty'; OFr. *lentif* 'slow', *brutif* 'brute'.

(e) As a noun used in the generic sense has the one feature in common with adjectives that it serves to summarize a number of similar qualities observed in a variety of individual objects, *-ivu* finally came to be attached to substantival stems. Again, most of them refer to the raising of cattle or growing of grain and vegetables: Ptg. *besta almargia*[14] 'animal living on pasture ground', *caminho*

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languages. Apart from **laborat-ivu*, note **labor-ivu* as implied by the Corsican place-name *Casalabriva* (beside *Casalta*, *Casabianca*, *Casanova*, *Casamozza*). Camp. *trigaðiu*, Log. *regaðiu* 'backward in ripening' may postulate the base **tricativu*, with *-ativu* added to a nominal stem, a formation made possible by the incorrect analysis of **laborat-ivu* as **labor-ativu*.

[10] That *manantío* must have originally extended also to Castilian is illustrated with Sp. *manantial* 'brook'. *Laschantiv* is attested as early as 1560. In Corsica, the representative of **vacantivu* applies to the uncultivated part of the vineyard, whereas in Sardinia two separate forms have developed, one relating to the field, the other to men and beasts.

[11] The phonetic restriction, however, does not apply to Gallo-Romance to the same extent as elsewhere. Provençal, for instance, apart from *agradiu* 'agreeable', *braidiu* 'eager', *cridiu* 'tearful', *faidiu* 'banished', *regardiu* 'waiting', all of them characterized by their *d*, contains many more formations in which phonetic conditions no longer have any evidential value: *adomniu* 'dominating', *adoniu* 'generous', *cargiu* 'onorous', *celiu* 'hidden', *penhoriu* 'pledgeable', *remembriu* 'mindful'. This, in addition to other semantic and syntactic criteria (such as abstract meaning and partly active function) would strengthen the assumption of a semi-learned origin of the whole set.

[12] G. Schaad 30.

[13] In a similar way, **sub umbriva* > *sumbregva* 'shadow'.

[14] OFr. *jolif* 'merry', *haïf* 'hateful' and other derivatives from Germanic stems have been quoted as evidence of the vitality of *-ivu* as late as the 5th century. In *almargio* the suffix is added to an Arabic stem; this takes us back to the 8th century at the earliest.

concelhio 'highroad', *figo ribaldio* 'wild fig'; Leon. *hambrío* 'hungry'; Rhaet. *armentiv* 'concerning cattle', *costif* 'inclined', *špundif* 'sloping', It. *campio* 'concerning the field', and particularly in the dialects, for instance that of Bergamo, as a specification of *teré* 'ground': *arborif* 'abounding in trees', *boschelif* 'rich in shrubs', *boschif* 'well-wooded', *brölif* 'rich in verdure', *brüghif* 'swampy', *castegnif* 'planted with chestnut trees', *cornif* 'rocky', *cortif* 'provided with farmyards', etc.[15] Characteristically, only Gallo-Romance has *-ivu* added to abstracts, which tends to show that here the suffix has filtered through other channels: OPr. *saboriu* 'tasteful', *talentiu* 'capricious', *volontadiu* 'desirous'; OFr. *paisif* 'peaceful', *aisif* 'pleasant', *noisif* 'quarrelsome', *bonteïf* 'bountiful', *plenteïf* 'plenteous'.

In all these groups, *-ivu* continues to denote relation. The only language where it has come to signify similarity (of hue) is Rumanian, though even there traces of the older function are not absent: *mijlociu* < *mediu locu* + *-ivu* 'middle central'. The starting-points for the new meaning are such primitives as *capră* 'goat', *maslin* 'olive', *mură* 'mulberry', *urs* 'bear', i.e. names of plants and animals characterized by a striking color: *aluniu* 'hazel', *arămiu* 'copper-colored', *argintiu* 'silvery', *auriu* 'golden', *cafeniu* 'coffee-colored', *căpriu* 'reddish', *cărămiziu* 'brick-colored', *castaniu* 'chestnut', *cenuşiu* 'ash-colored', *masliniu* 'olive', *muriu* 'deep purple', *pământiu* 'earth-colored', *portocaliu* 'orange', *ruginiu* 'rust-colored', *sângeriu* 'blood-red', *stăcojiu* 'scarlet', 'lobster-colored', *trandafiriu* 'rose', *ursiu* 'bear-colored', *vioriu* 'violet'.[16]

5. We now must try to establish the somewhat sinuous routes by which part of these formations attained to independent use. Starting from Latin, we shall first focus on such substantivized forms as present the least modified meaning and gradually pass on to more complex groups. The easiest way to understand the successive stages of the development is by combining and mutually supplementing the evidence furnished by the individual languages.

(a) As in Latin, a Romance adjective in *-io*, by changing into a substantive, can come to designate a place. In a few particularly favorable cases, both functions are still in living use side by side: Ptg. *bravio* 'wild' : *o bravio* 'wilderness', *baldio* 'shallow' : *o baldio* 'lealand'; Sp. *umbrío* 'shady' : *umbría* 'shadow'; Rhaet. *sulaif*, *suleglif* < **solat-ivu*, **solicul-ivu* 'sunny' (Surselva) : *solif* 'sunny side' (Dolomites). In other cases, different languages have preserved different uses of the same word, e.g. Rhaet. *estiv* 'summery' : Sp. *estío* 'summer'. Purely substantival formations are Ptg. *pastio* 'pasture ground'; Gall. *mansío* 'smooth water'; Leon. *perdío* 'ground once cleared and then left untilled'; Sp. *bajío* 'shoal', *plantío* 'plantation'; Cors. *campivu* 'arable land', *asprivu* 'wilderness', *boschivu* 'woodland'; It. *bacio* 'place situated toward the north', *caldio* 'place exposed to sunshine', *pendio* 'slope'; OPr. *casiu* 'hunting-ground'.

(b) As in Latin, the resulting substantive can have a collective meaning, more

[15] Other examples are *frötif* 'fructiferous', *gerif* 'icy', *grassif* 'fat', *guastif* 'fallow', *magrif* 'meager', *montif* 'mountainous', *ortif* 'full of gardens', *morunif* 'planted with mulberries', *pascolif* 'consisting of pastures', *pratif* 'covered with meadows', *ripif* 'on the slant', *ronchif* 'with vineyards on the hill', *sabiuní* 'sandy', *salegif* 'planted with willows', *sgrösif* 'dry', *sulif* 'sunny', *zerbif* 'untilled'.

[16] Vestiges of this nuance can be found in Portuguese also, e.g. *alvadio* 'whitish'.

specifically that of a herd, and then of a band or a group of human beings—rarely that of a heap of inanimate things. The point of departure is illustrated by Ptg. *rebanhio* 'that goes in a flock', still a pure adjective; the midpoint in the development, by Sp. *cabrío* (1) 'characteristic of goats', (2) 'flock of goats', or Ptg. *gentio* (1) 'heathenish', (2) 'crowd'; and the final point by Gall. *armentío* 'aggregate of flocks', Ptg. *rapazio* 'group of children', *mulherio* 'great number of women', Leon. *haberío* 'cattle', as well as by Sp. *caserío* 'series of houses', Leon. *cundío* 'gravy', *yerbío* 'abundance of grass'. Note the meaning 'excrement' in Braz. *churrio* 'diarrhea seizing the cattle', It. *acciarpio* 'droppings'.[17]

(c) If nominal formations in *-iu* helped to develop the collective function, the suffix meanwhile did not cease to be connected with verbal stems. Transposed into the verbal system, collectivity corresponds to reiteration. Frequentative abstracts are more common in Italian than in any other European language. This variety falls into some smaller groups. The underlying idea can be that of exaggerated fussiness: It. *brulichio, formicolio* 'swarming', *abaruffio* 'squabbling', *abbalottio* 'running around', *armeggio* 'continual fumbling', *rovistio* 'minute searching', *fracassio* 'loud rumbling'.

(d) In other cases, repetition is incident to the action and does not imply any derogatory idea: It. *gocciolio* 'dripping', *traballio* 'wavering'. It can relate to a movement executed by the human body: It. *brividio*, Ptg. *arrepio* 'cold shiver', Sp. *ahoguío* 'shortness of breath', Leon. *bracejío* 'gesticulation'. Hard physical work comes to be treated as the repetition of a certain characteristic movement: Leon. *cavío* 'spade labor', *rapío* 'sheering', *regantío* 'irrigation'. In a more general sense, we find Gall. *adobío* 'preparation', Sp. *laborío* 'field labor', and, as its comical counterpart, Sp. *amorío* 'flirtation'. The end-point of this set is Ptg. *feitio* 'shape', where the idea of the action ('making') has been supplanted by the idea of its result.

(e) Included in the foregoing groups, but deserving separate mention as more specialized series are such abstracts as denote sounds: Gall. *uivo* 'howling', *bufío* 'neighing'; Leon. *borbío, estuprío* 'noise', *rebumbío* 'banging', *retumbío* 'crash'; Ptg. *asobio* 'whistling'; It. *battio, picchio* 'continuous knocking', *favellio* 'babbling', *cigolio* 'noise of the wheels of a car', *annitrio* 'neighing', *belio* 'bleating', *brontolio* 'grumbling', *calpestrio* 'trampling'.[18] Much rarer are the cases where *-io* refers to an odor; the idea underlying these formations is that of continuity rather than of repetition: Ptg. *bafio* 'smell exhaled by a moist place', Gall. *bravío* 'smell of game'. Still rarer is the idea of temperature as implied by OPr. *recaliu* 'heat, fever' (developed from **calivu* 'warm', whose existence is vouchsafed by Cors. *accalivà* 'to warm up').

(f) The bridge leading to the most distant group Sp. *señorío* 'dominion', *poderío* 'power' is formed by the number of connotations *senhoriu* has preserved

[17] In Leonese, contamination of *-io* with *-(er)ía* was conducive to the formation of the suffix-chain *-erío*: *ascu-erío, bras-erío* 'heap of red-hot coals', *astill-erío* 'heap of splinters', *av-erío* 'poultry'.

[18] Of particular significance are the Ibero-Romance examples. They show that the theory advanced by Meyer-Lübke, It. Gr. 289, that this variety of *-io* goes back to *-erium*, is untenable. His contention rested on the comparison of It. *lavorio* 'work', *diavolio* 'devilry' with Milanese *lavoreri, diavoleri*.

in Old Provençal: 'lordly', 'lord', 'lordship', and also the one it has acquired in Gallegan: 'community of lords'. The word first appeared as a substantive with collective meaning, which then in most languages was lost, giving way either to the designation of a single person having full authority, or (as a rule) to the abstract notion of power; the latter shift also is illustrated with OPr. *podestadiu* 'domain, lordship'. Between 'community of lords' and 'sway' we may safely assume the transitional meaning 'status, propriety, rights, and privileges of lordship', as shown by OPr. *esplechiu* 'right of exploitation', *comtiu* 'estate of a count', Sp. *monjío* 'status of a nun', Ptg. *abunhadio* 'status of an abunhado' (i.e. an Indian slave obliged to live in his native village).[19] Furthermore, in Sp. *cuñadío* 'relationship of brothers-in-law' and Ptg. *compadrío* 'godfathership', there is an allusion to the atmosphere of friendship and intimacy resulting from such close intercourse.[20]

6. From the outset, there seemed to be little evidence for assuming a link between all these vernacular ramifications of *-ivu* and *l'objectif, l'initiative.* Nevertheless, it was necessary to dwell on them to make sure no connection has ever existed. We are now all the safer in regarding the learned variety as the presumable source of the type under study.

Among the erudite adjectival derivatives, there are innumerable formations in It. *-ativo*, Fr. *-atif*, E *-ative* which present few novel aspects. We may therefore pass on directly to a more interesting group of words, characteristic of Old French and Old Provençal (to a lesser extent also of Italian), which at first glance appear popular, but on closer analysis turn out to contain at least certain elements of a learned development. These formations include OFr. *aidif* 'helpful', *taschif* 'trying', *tranchif* 'resolute', *songif* 'meditative', *mendif* 'mendicant', *doutif* 'fearsome', *guerrif* 'warlike', *ententif* 'desirous'; OPr. *mescliu* 'quarrelsome', *asolasiu* 'entertaining', *envaziu* 'serving for invasion', *esforsiu* 'zealous, energetic', and also *ajostatiu* 'uniting', *confortatiu* 'comforting', *lamentatiu* 'lamenting'.[21] To solve the problem of their origin, recourse must be had to the following criteria:

(a) The phonetic criterion speaks in favor of assigning these derivatives to the vernacular stratum, as the form of *aid-*, *song-*, *dout-* seems to indicate

[19] *Señorío* may have interfered with the shift of stress suffered by *albedrío* < *arbitrium* 'free agency'.

[20] No major significance should be attached to the occasional alternation between *-io* and *-ia*. This latter variety, derived from the plural of the neuter, gives an even stronger prominence to the collective shading. The starting point in Latin is *sativa* 'tilled land' as against *silvestria* 'woodland' (Pliny). Note the indiscriminate use, in Portuguese, of *baixia* and *baixio* 'shallow'; in Leonese, of *solombría* and *solombrío* 'shadow', *manantía* and *manantío* 'brook'. Compare Fr. *lessive* 'lye' and Rhaet. *glischiva, altschiva* 'washing' to OPr. *leisiu* 'lye' < *lixiva, lixivum*. Interesting formations in *-iva* are also Log. *naḍia* 'children, progeny' < *nativa* and *boladia* 'dust soaring up when corn is winnowed' < **volativa*.

[21] The Italian formations alluded to are, for instance, *addormentativo* 'producing sleep', *ammaestrativo* 'instructive', *appiccativo* 'contagious', *impacciativo* 'embarrassing', *infreddativo* 'refreshing', *nettativo* 'purgative', *proseguitivo* 'persecuting', and the like; see Breitmeyer 342.

'popular' treatment of the Latin primitives **adiut-*, *somn̨-*, *dubit-*. The presence of Germanic stems among those thus combined with *-ivu* adds to the strength of the argument.

(b) The syntactic criterion concerns the neuter, passive, or active connotation of the derivatives, the first two being inherent in republican Latin and the Romance vernaculars, while the last is proper to imperial and medieval Latinity as well as to most Latinisms absorbed by modern languages. Now, the great majority of Old French examples are decidedly active, but words of a different nature, such as *estaïf* 'slow, idle' are not altogether absent. In Old Provençal we also run across some passive formations: *plegiu* 'weak' (from *plegar* 'to bend'), *preziu* 'precious' (from *prezar* 'to prize'), and this is true of Italian as well: *mangiativo* 'apt to be eaten', *schiantativo* 'apt to be broken to pieces', *sfiancativo* 'lean, rawboned', *travagliativo* 'busy'. Moreover, there was generally no sharp line of demarcation between the different voices within the province of Old French word-formation, as can be seen by the treatment of *-able*. Though these considerations somewhat weaken the argument, the repeated use of such active constructions as *estre ententif d'une chose* 'to be desirous of something', which are typical of late Latin prose,[22] combined with the fact that active formations by far outnumber all others, clearly indicate the partial if not the exclusive effect of learned influences.

(c) In view of this conflicting evidence, particular importance attaches to the third, the semantic criterion. It should be recalled that in all unquestionably vernacular formations so far discovered in Portuguese, Gallegan, Castilian, Italian, and Rumanian, *-ivu* was used to derive concrete adjectives and nouns. Great use was made of it to express sensible qualities: hues and sounds, odors and temperature, or varying characteristics of a terrain. This meaning is in every way different from the one that has been adopted in Gallo-Romance. In point of fact, the variety that is peculiar to Old French and Old Provençal ministers to an entirely new need: it connotes a psychological attitude such as fear, joy, solace, desire, zeal. This is precisely what proclaims these words as formations containing a clearly distinguishable element of learned, post-Ciceronian *-ivu*. The difficulty that arises from the discrepancy between this evidence and the phonetic facts pointing to popular provenience of the derivatives can be reduced by the assumption of a semi-learned development. We should be careful not to lose sight of the possibility of a very early influx of Latinisms into French and Provençal, since in these two languages a rich ecclesiastical literature is supposed to have flourished by the year 900. At that time, the contrast between the learned and the vernacular categories naturally was less radical than in later centuries. For this reason, early imitations of Latinisms in *-ivu* could easily have been extended to the domain of vernacular primitives. In other words, counter to the close connection between Romance stems and pre-Ciceronian *-ivu* observable in all cognate languages, French and Provençal alone developed a combination of these stems with a variety of the suffix that was closely akin to the one encountered in medieval Latin.

[22] Cf. *sua autem voluntas est effectiva rerum* 'his will brings about everything' (Thomas Aquinas), almost synonymous with *sua voluntas efficit res*.

As for its further spread, contamination between *-tivu* on the one hand, and *-ticu, -ticeu, -ile, -ino* on the other,[23] must be held responsible for the generalization of the function of *-if*. Very important is also the fact that nearly all of the verbal and nominal stems to which it extended its influence ended in dental consonants: *nuisif* 'detrimental', *pensif* 'pensive', *amusif* 'serving to amuse', *noisif* 'quarrelsome', *taisif* 'silent', *aisif* 'agreeable', *paisif* 'peaceful', *angoissif* 'anxious', and also, characteristically, such a hybrid word as *sitif* 'thirsty'. Of course, semantic affinity has sometimes interfered with phonetic relationship: *clamif* 'shouting', though lacking a dental consonant, has been attracted as almost a synonym of *braidif*, and so has *homif* 'human' (1348) as an antonym of *celestif* 'celestial'. Note one curious group of words derived from abstracts in *-te*: *faintif* 'feigning' (unless it is a subsequent distortion of *ficticeu* 'fictitious'), *hastif* 'hasty', *fuitif* 'fleeing', *poestif* 'powerful', *rentif* 'he who pays a rent', and another group developed from abstracts in *-té*: *santeïf* 'healthy', *plenteïf* 'abundant', *bonteïf* 'bounteous'. *Anelif* 'having a strong breath' (11th century) as against vernacular *haleine* < *anhela* reveals an interesting radiation of a medical term into popular strata, and the same applies possibly to Ptg. *sadio* < *sanativu* 'healthy'.

7. Among Romance adjectives in *-i(v)o*, we have recognized three major groups of formations: vernacular (OFr. *estaïf*, Sp. *sombrío*, It. *campio*, Rum. *căpriu*), learned (Fr. *constructif*) and semi-learned (OFr. *ententif*; also Sp. *altivo, umbrío*). The picture is altered if we turn to the substantives: here there is a real gap between the vernacular and the learned strata. The former has already been dealt with; it contains formations either rural (Ptg. *pastio*, Leon. *cavío*) or familiar, humoristic (It. *fracassio*), but in any event unmistakably popular. The learned group which we shall now be concerned with[24] is directly connected with Scholasticism and goes back to the usage of Thomas Aquinas, if not to that of Boethius and Tertullian. The important fact is that no semi-learned substantival formations have sprung up.

It is to this last category, the substantival variety of learned *-ivu*, that the type of *l'objectif, l'initiative* can be traced.

If the main groups are the same as in late Latin, the strength of each group depends fundamentally on the more or less lasting reputation antique scholars have enjoyed, in the given discipline, among their successors. This gives a clue to the understanding of the contrast between the frequency of *-iva*, as serving to express a faculty or a potential power, in Old Italian and Middle French, and the comparatively sparing use English made of it in this one function,

[23] *Jointiz* > *jointif* 'joint', *faitiz* > *faitif* (1) 'produced', (2) 'serving to produce', *hostil* > *hostif* 'hostile', *soutil* > *soutif* 'subtle', *orphelin* > *orphelif* 'orphan'; in Middle French, *subrepticiu* > *subreptif* 'clandestine', *obrepticiu* > *obreptif* 'obtained by craft', *authenticu* > *autentif* 'authentic', *erraticu* > *erratif* 'erratic'.

[24] The material presented in the following paragraphs is based on the dictionaries of Godefroy and Tobler-Lommatzsch, for Old French; of Huguet, for French in the 16th century; of Bloch - von Wartburg and Hatzfeld-Darmesteter-Thomas, for Modern French; of Tommaseo-Bellini, for Old and Modern Italian. The NED has been consulted for English.

whereas in other respects it has beyond doubt indulged in this suffix more than any other language. The discrepancy can only be explained by the fact that in England the use of *-ive* reached its peak about three hundred years later than on the continent, and that in this interval European philosophy had largely freed itself from the imitation of antiquity, with its theory of the opposition of forces in potentia and in actu. The list of the Italian formations is impressive: *apprensiva* 'power of perception', *cogitativa* 'thinking faculty', *comprensiva* 'faculty of understanding', *comunicativa* 'faculty of imparting knowledge', *contemplativa* 'power of contemplation', *deliberativa* 'debative faculty', *dimostrativa* 'faculty of demonstration', *discretiva* 'faculty of discernment', *distintiva* 'faculty of distinguishing', *escogitativa* 'faculty of devising', *espressiva* 'faculty of expression', *(e)stimativa* 'faculty of judgment', *imaginativa* 'faculty of imagination', *intellettiva* 'intellectual faculty', *inventiva* 'inventive faculty', *opinativa* 'thinking power', *percettiva* 'faculty of perception', *persuasiva* 'persuasive power', *reminiscitiva* 'power of reminiscence', *riten(i)tiva* 'power of memory'. A few interesting cases are recorded of an attempt to transpose *-iva* into the domain of physical forces: *espulsiva* 'force of expelling from the body such forces as are detrimental to health'; *elettiva* 'affinity'.

French also possesses a great many formations: *acquisitive* 'talent of acquiring' (Oresme), *apprehensive* 'faculty of grasping' (Gordonius), *argumentative* 'art of arguing (J. Bouchet), *estimative* 'faculty of estimation' (Le Bel), *predative* 'propension toward stealing' (Oresme), *imaginative* 'power of imagination' (Deschamps), *initiative* 'power of initiation' (1567), *intellective* 'intellectual faculty'.

English, of course, could not fail to accept a few of these words of international currency, but this does not amount to proof that the type as such has ever had a real vogue in that language.

The situation is entirely different with the species of *-iva* that emerged in grammatical treatises and ultimately came to stand beside *-tione*, connoting a verbal abstract, since the authority of Latin grammarians lost its force much later, if at all. Here, it is Italian that offers considerably fewer examples than English, while the middle ground seems to be held by French:

It. *espositiva* 'exposition', *inclusiva* 'inclusion', *esclusiva* 'exclusion', *illuminativa* 'illumination', *unitiva* 'unification', *inventiva* 'find'.

Fr. *admirative* 'word expressing admiration' (Du Fail), *affective* 'affection' (St. François de Sales), *borsative* 'gain' (Miracle de vie et de mort), *consolative* 'consolation' (Michel d'Ambroise), *copulative* 'conjunction' (Deschamps), *disjonctive* 'disjunction' (Rabelais), *disputative* 'disputation' (Molinet), *divisive* 'division' (M. Scève), *exercitative* 'exercise' (Oresme), *expositive* 'exposition' (1552), *furtive* 'action connected with concealing' (Boutillier), *lucrative* 'gain', *memorative* 'commemoration' (Fossetier), *persuasive* 'persuasion' (Martial), *possessive* 'possession', *preparative* 'preparation' (Lemaire de Belges), *relative* 'relation' (1547), *traditive* 'tradition' (C. Marot), *vegetative* 'existence' (E. Pasquier).[25]

[25] Though Jehan de Meung is credited with having been the first to introduce scholastic terms in *-if, -ive* into French, the termination as such existed prior to him in substantival derivatives, e.g. *ois(d)ive* 'idleness', in all probability a contamination of *oisif* 'idle' and

Engl. *appellative* 'appellation' (1632), *commemorative* 'commemoration' (1636–69), *compellative* 'compellation' (1830), *dehortative* 'dehortative argument' (1671–1850), *decisive* 'decision' (1734), *declarative* 'declaratory statement' (1653–), *deductive* 'deduction' (1677), *deliberative* 'deliberative discourse' (1597–1650), *disquisitive* 'investigation' (1659), *dissuasive* (1629–), *excessive* 'extravagance' (1644), *expectative* 'expectancy' (1528–1758); *imperative* 'imperative action' (1606–1808), *implicative* 'implication' (1589), *inductive* 'inducement' (1420–1683), *persuasive* (1641–), *prospective* (1599–), *relative* 'relationship' (1657–75), *reparative* 'reparation' (1639), *representative* 'representation' (1688–1760), *responsive* 'answer' (1683), *restorative* 'restoration' (1485), *retractive* 'dissuasion' (1616–44), *retrospective* 'backward prospect' (1823), and many others.

Medicine has contributed a variety of words which were in the beginning strictly confined to the designation of drugs, but gradually acquired the more general sense of a substance, later of the agents incident to these substances, and finally of immaterial forces. This characteristic modification is seen in such sentences as Fr. *bien que l'amour de Dieu soit le principal conservatif des vertus* 'though love of God is the chief preservative of virtues' (François de Sales) and *l'homme est herité du deffensif contre forfaict inique* 'man inherits a preventive against iniquitous infringements' (Cretin). In English, the change under survey can be illustrated by *corrosive*: by 1400, a remedy; in 1471, a substance; in 1663, the equivalent of 'grief'. The starting-point of one word can coincide with the end-point of another, and there is no chronological barrier to the continuity of these shifts, which in fact seem to range from the early Middle Ages down to the present time. As late as 1600, *a corroborative of the stomack* was used by physicians in their prescriptions; fifty years later, *a corroborative of baptismal grace* was referred to by a theologian; and before two centuries had elapsed *a corroborative to his inflexibility* expressed an abstract and comprehensive moral notion. This is how *a conducive of* (or *to*) *health* was devised; *a preventive* evolved out of a 'medical agent' into a 'means of prevention', and ultimately into 'hindrance, obstacle'; *an inflammative* came to denote 'an inflammatory agent' (1685) and no longer 'an aphrodisiac', as it did at the outset (1412); *a detersive* 'cleansing agent', in addition to its medical sense (1634–), took on a general connotation (1843).

The last subdivision of agents and principles based on *-ivum* is slightly differentiated from the group of forces and faculties based on *-iva*. This type also was very frequent in English, particularly throughout the 17th century. At no other time and in no other single country does the suffix seem to have had a vogue as great, though this was the last it had anywhere, since Renaissance currents reached England later than they did the Romanic countries:

an allective 'that which has power to allure' (1531–1675)

an animadersive 'percipient agent' (1660)

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bois(d)ie 'mischievousness' (Wace, Marie de France, G. de Coinci, Renclus de Molliens). Though lacking a clearly circumscribed function, the ending was known sufficiently well to infringe upon the domain of *-ie*, as in *estoutive* instead of *estoutie* 'stupidity' (Benoît, Ducs de Normandie); in a similar way, Jehan Petit (1360–1411) used *maladive* in place of *maladie* 'illness'.

an attractive 'that which draws like a magnet' (1581–ca. 1800)
an avocative 'anything that calls away' (1677)
a determinative 'determinative agent' (19th century)
a directive 'that which directs' (1642, 1654)
a distributive 'distinguishing mark' (1816, 30)
an illuminative 'illuminative agent' (1711)
an impulsive 'impelling agent' (1628, 59)
an institutive 'agent that institutes' (1644)
an intensive 'something that intensifies' (1860)
a propulsive 'propulsive agent or principle' (1834)
a provocative 'something that provokes' (1638)
a recreative 'recreative thing' (1615, '20)
a reductive 'that which tends to reduce' (1676, '81)
a revulsive 'something producing revulsion' (1661–67)[26]

In the Romance languages, there seems to have been not only a notable numerical decrease in the use of this variety, but a gradual blurring of its intrinsic value. Thus, side by side with such characteristic formations in Middle French as *l'attractif* 'attractive power' (J. Bouchet), *le defensif* 'defensive agent' (Cretin, Du Fail, Cotereau), we run across others where masculin *-if* has secondarily assumed the connotation of verbal abstracts, the very nuance that the feminine type had so far expressed through the medium of grammatical terms: *l'alternatif* 'alternation' (M. de St. Gelais), *l'argutif* 'sophisticated argumentation' (Villon), *le dispositif* 'purview', *le distinctif* 'distinction' (1314), *le narratif* 'narration' (Charles d'Orléans), *le plaintif* 'complaint' (N. de la Chesnaye, by 1450; Calvin), *le preparatif* 'preparation' (Christine de Pisan), *le responsif* 'response' (Boutillier, by 1380), *le restraintif* 'restraint' (Charles d'Orléans, Seyssel), *le significatif* 'signification' (J. Molinet)—not to mention such surprising nonce-words as *l'acquisitif* 'acquired features' (Brantôme) as contrasted with *le naturel*, and *le sens(it)if* 'seat of the feeling' (Villon).[27]

At this point, the masculine and the feminine varieties, which we have been careful to keep separate, finally came into contact. Their conflict necessarily resulted in an attempt at a renewed segregation. If so, the varying distribution of *-ivum* and *-iva* in the individual Romance languages no longer calls for an explanation: the sources were always the same, and frequent vacillations in Latin admitted of free use of this common material. Consequently, the reaction of the vernaculars depended mainly on the specific part assigned to each gender in each single system. Only on the basis of this ample scope is it under-

[26] English also is rich in plural formations, e.g. *disjunctives* 'disconnected things' (1624–77), *inceptives* 'beginnings' (1728–34), *perceptives* 'perceptive faculties' (Herbert Spencer), in keeping with the numerous words in *-ics*; compare It. *le trattative* 'negotiations', Fr. *les préparatifs* 'preparations', *les figuratifs* 'figurative aspects' (Pascal).

[27] In Middle French, *-if* and *-ive* repeatedly served as stylistic resources. Christine de Pisan is reputed to have introduced words ending in this learned suffix to imitate the 'style clergial' and to express 'choses estranges en plus grand soubtilite'; her enthusiasm for monastic Latinity was sincere and genuine. As for Villon and Rabelais, there are reasons enough to suspect both writers of having intended ridicule of the scholastic tradition they are known to have abhorred; for them, *-if* and *-ive* were symbolic of the atmosphere of the Sorbonne.

standable that the derivatives should have continued to reflect a certain traditional usage while developing in keeping with the present-day value of both genders.

Thus, in French, virtually all of the verbal abstracts in *-if* just mentioned have been subsequently ruled out, while the few recently coined words, patronized by military terminology, have a surprisingly concrete shading.[28] Both these tendencies—elimination of *l'alternatif, le defensif, le directif* coinciding with the coinage of *l'effectif* 'effective forces', *l'objectif* 'focal point, aim, goal', *le dispositif* 'apparatus'—become perfectly clear in the light of the ideas of Damourette and Pichon,[29] who try to delimit the domains of the two genders in Modern French as follows:

'Est masculin tout ce qui est figé dans une délimitation précise, méthodique et en quelque sorte matérielle.—Est féminin tout ce qui représente une substance immatérielle connue comme purement abstraite.'

If Spanish, in contradistinction to French, is still tolerant of many formations in *-ativo* (*atractivo* 'attraction', *distintivo* 'mark', *donativo* 'largess', *incentivo* 'incentive', *incitativo* 'incitation', *reactivo* 'reaction', *regulativo* 'principle', *significativo* 'signification', *sustitutivo* 'substitute') and if, on the other hand, it possesses comparatively few words in *-iva*[30] (apart from those borrowed from other languages), the genders in this system have obviously adopted different values from those established for French. That this is true—that masculine, in Spanish, displays a considerably more abstract coloring than it does in French—is incidentally illustrated by the different treatment of abstracts in *-ore* (*une couleur, une odeur* : *un color, un olor*), by the additional series, in Spanish, of masculine abstracts in *-e* lacking in French,[31] and by the precedence given in Spanish, but not in French, to masculine post-verbal abstracts in *-o* over the feminine variety.[32]

The fact that English is particularly rich in formations in *-ive* can be accounted for by the coincidence of the masculine and the feminine varieties in this language alone. As a matter of fact, it takes the trained student to recognize the original feminine gender of *the dissuasive* and to reconstruct the masculine (or neuter) gender of *the preventive.* Now, it can be demonstrated that increased formal unification inevitably leads to a greater spread of the given type. Thus, *-ale* has a greater vogue in English than in French, where it is split into *-al* and *-el*; conversely, *-icus* has gained a stronger foothold in French than in English, where it is divided into three separate groups: *-ic* (*chronic*), *-ical* (*logical*), and *-ic* alternating with *-ical* (used either promiscuously: *historic* beside *historical*, or differently: *economic* beside *economical*).

After having surveyed the growth of the suffix in republican, imperial, and medieval Latin, noted the genesis of its shift to the substantival domain, and

[28] *Les préparatifs* does not count because of its plural form.

[29] Jacques Damourette and Édouard Pichon, Des mots à la pensée 1.354–423 (Paris, 1930).

[30] One such original formation is *ahorrativa* 'economy' (Polo de Medina).

[31] For instance, *el destrueque* 'la remise', *el desquite* 'la revanche', *el desmogue* 'la mue', *el destemple* 'la dissonance', *el descargue* 'la décharge', *el desgaje* 'la déchirure'.

[32] Compare *un encuentro* 'une rencontre', *un anuncio* 'une annonce', and many others.

stated the popular, semi-learned, and learned channels through which it filtered down into the vernaculars, we are in a better position to answer the questions posed at the outset:

(1) In the Romance development, *-ivus*, though largely supplanted by parallel suffixes, has left numerous vestiges from Portugal to Rumania, resembling, in function and connotation, the variety used in republican Latin.

(2) The necessity of creating equivalents to Greek terms warranted the change from a passive to an active type that *-ivus* underwent in late and ecclesiastical Latin.

(3) Old French and Old Provençal formations are of semi-learned provenience and illustrate the peculiar position of Gallo-Romance as against all the rest of the Romanic languages.

(4) Technical dialects in which the noun could be omitted as constantly present to the mind of the interlocutors are the starting points for the shift of *-ivu* to a substantival suffix: *-iva* was favored by grammarians and philosophers, *-ivum* by philosophers and physicians. At a later date, the elements became entirely independent. This process of emancipation and generalization was repeated in each of the vernaculars. Here we actually encounter the rare case of contamination of the two fundamental types of an adjective used as a substantive: ellipsis and the immediate shifting from one word-class to another.[33]

(5) The spread and value of the masculine and the feminine varieties in the modern languages connected with Latin are in harmony with the general domain and function assigned to each gender in each dialect.[34]

[33] Another instance of the same phenomenon is seen in *-ica*, even more closely related to *-ικη*. At the outset, it was used elliptically: (*ars*) *musica*; cf. Einar Loefstedt, Syntactica, vol. 2, chapter 10: Ellipse (Lund, 1933). At a later date, it became independent enough to compete with *-ia*, cf. Fr. *diplomatie* beside *diplomatique* (subsequently differentiated), *théorie* beside *théorique*, *pédagogie* beside *pédagogique*. In the cases of *dialectique*, *éthique*, *métaphysique*, *clinique*, *esthétique*, the adjective followed on the noun. Even more reminiscent of *-iva* is *-oria*: here, the noun omitted in clerical style seems to have been *littera* 'letter'. Thus, in the individual Romance languages we come across descendants of *executoria* 'executive', *comminatoria* 'comminatory', *declaratoria* 'declaratory', *compulsoria* 'compulsory', *dimissoria* 'dimissory', *confessoria* 'confessing', *dedicatoria* 'dedicatory', *eliminatoria* 'eliminating', used as 'execution', 'menace', 'declaration', 'compulsion', etc. Note It. *deploratoria* 'elegy' (F. Belcari, 15th century), Sp. *escapatoria* 'escapade', with its humoristic effect (presented as the sentence of a judge). In Middle French, the gender was fluctuating: *la revocatoire* 'revocation' beside *le robatoire* 'theft'.

[34] I am profoundly indebted for criticism of this paper to Professor Leo Spitzer, who set forth his own views on *-ivus* in Vox Romanica 2.204. Professors Eugen Lerch, Urban T. Holmes Jr., and Mario A. Pei gave me valuable suggestions. Dr. Marion Carroll and Miss Adele Wolkin kindly polished up the style. I understand that Professor Lerch has recently published an article on 'Das Motiv' in Studia Neophilologica. To my regret, this study is so far not available here in New York.

SPANISH *acordar* AND RELATED WORDS

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[Latin *cŏr* 'heart' and *chorda* 'string, cord, chord' have been proposed as the origin of Spanish *acordar*. Examples from early texts show that all the principal meanings of *acordar* are to be found in *cŏr* and related words. *Chorda* accounts for only the meanings 'harmonize, agree' and not for the meanings that refer to mental and emotional states. Although there may be an overlapping of *cŏr* and *chorda* in the meanings 'harmonize, agree', *cŏr*, since it could account for all meanings, should also appear in REW³ §71a. It should be stated that of the two Latin words *chorda* occupies the second place of importance.]

Meyer-Lübke, REW³ §71a, derives Sp. *acordar* from **acchordare* 'die Saiten stimmen, in Übereinstimmung bringen'. Any list of the meanings of *acordar* (Cuervo, Diccionario; Diccionario Histórico) supports Cuervo's thesis[1] that *acordar* is in meaning too complicated a word to be explained so simply.

The purpose of this article,[2] aside from reaffirming Cuervo's choice of etymon, is to show that *acordar(se)* may be a development of at least two Latin meanings of *cŏr*, with the possible addition of a third. The following examples cited from the oldest texts are classified in three general groups: 1. referring to music and harmony; 2. indicating agreement between individuals or things; 3. expressing mental states of various kinds.

1. CASES REFERRING TO HARMONY AND RHYME[3]

assaco el despues por si temprar las cuerdas, las unas altas, e las otras baxas, e las otras en medio; e fizo las todas responder en los cantares cada unas en sus uozes

[1] 'Etimologistas franceses e italianos han dado por cosa cierta que este verbo se aplicó primariamente a los instrumentos músicos, y que es compuesto de *ad* y *chorda*, "cuerda"; pero la mayor parte de las acepciones no pueden explicarse de este modo. Lo cierto es que es un derivado de *cor, corazón*, en que se han confundido las significaciones de *acorde* y *cuerdo* y análogo a *concordar, recordar*, así como *acorde* lo es a *concorde*, en lat. *concors*, de igual origen que *excors, vecors*.'

The Diccionario Histórico de la Lengua Española accepts *cor, cordis* without discussion but does not offer enough examples from the earliest periods to serve as a complete guide in semantics. A. Castro, RFE 5.25 (1918), doubts **acchordāre*: 'La influencia de *cor* parece evidente en vista de *concordare, discordare* (Cantar, página 426).' Richardson in his glossary to the Libro de Buen Amor suspects a double influence.

[2] In preparation of this article I have made use of the files of the Seminary of Medieval Spanish Studies at the University of Wisconsin. The preparation of a vocabulary of the works of Alfonso X of Castile was begun by the late A. G. Solalinde. It is now under the direction of Professor Lloyd Kasten.

For their criticism of the present study I wish to thank Professor Kasten and Professor Américo Castro of Princeton University. I have found it very convenient to refer to the Concordance of Berceo of Professor Bart E. Thomas (unpublished thesis, Wisconsin).

This note on *acordar* presents a method to be followed in the determination of etymologies for the Alfonsine vocabulary. I have to thank the Research Committee of the Graduate School of the University of Wisconsin for assistance during the summer of 1936 in studying the vocabulary on file.

[3] The following abbreviations are used: Apol. = Libro de Apolonio, ed. Marden; C =

e acordar con ellas, donde se fazen las dulçedumbres que plazen mucho a los omnes e los alegran 'he was afterwards able to tune the strings, some high and others low and others in between; and he caused them to correspond in songs each to its own words and TO BE IN HARMONY with them, whence are made the sweet sounds that greatly please and delight men' GE 1.15a.46.—*ca en musica, que es ell arte de cantar, era muy grand maestro; et en fisica, muy sabio a grand maravilla, et assi sabie acordar canto por canto et palaura por palaura* 'for of music, which is the art of song, he was a great master . . . and he knew how to make song CORRESPOND to song and word to word' PC 145b.22.—*Los nomnes son revueltos e graves de acordar, Non los podemos todos en rimas acoplar* 'The names are confused and difficult to MAKE FIT; we cannot make them correspond in rhyme' SMill. 475a.—*Para los instrumentos estar byen acordados* 'For the instruments to be IN TUNE' JRz. 1515a.

2. CASES INDICATING AGREEMENT AND DECISION

acuerdan en una razon 'they AGREE (on one idea)' C 2066—*non acuerdan en consseio* 'they do not AGREE on the same plan' C 3218.—*mio Cid con los sos tornós a acordar* 'the Cid once more TOOK COUNSEL with his men' C 666.—*acuerdan los sabios en este logar et dizen . . .* 'the wise men ARE IN AGREEMENT in this place and say . . .' PC 101a.25.—*Maestro Pedro que acuerda con el* 'Master Peter who AGREES with him' GE 1.623a.28.—*acuerdan en uno* 'they AGREE' PC 114a.23.—*acordaronse sobrello* 'they CAME TO AN AGREEMENT' PC 158.25.—*Et los unos acordauan que si et los otros que no* 'Some AGREED that it was and others that it was not' PC 570a.21. This meaning is extremely common.[4]

The following examples present certain variations of the usage just cited, though preserving the general idea of agreement.

(a) 'to decide, determine, acknowledge': *ruego vos que me digades en lo que acordastes* 'I beg you to tell me what you DECIDED' JRz. 1409d.—*e acordaron que fues destroyda en todas guisas* 'and they DECIDED that it should be completely destroyed' PC 51b.17.—*acordaron los senadores et el comun de la cibdat de Roma con los consules de poblar a Carthago* 'the senators and the people of Rome DECIDED with the consuls to settle in Carthage' PC 53a.31.—*Mas todos los mas acordaron que muriera de la calentura del fuego* 'But most of them ACKNOWLEDGED that he had died from the heat of the fire' PC 202a.30.—*Querian hir de buen grado en esta romeria, Acordaronse todos, fueron luego su via* 'They wished gladly

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Poema de Mio Cid, ed. Menéndez Pidal (Clásicos Castellanos 24); Duelo = Berceo, Duelo de la Virgen, BAE, vol. 67; GE 1 = Alfonso X, General Estoria 1, ed. Solalinde; JRz. = Juan Ruiz, Libro de Buen Amor (Vocabularies of Aguado and Richardson); Loores = Berceo, Loores de Nuestra Señora, BAE, vol. 67; PC = Alfonso X, Primera Crónica General, ed. Menéndez Pidal; Pi. = Alfonso X, Picatrix, Manuscript of the Vatican, Reg. Lat. 1283; Sac. = Berceo, Sacrificio de la Misa, ed. Solalinde; SDom. = Berceo, Vida de Santo Domingo de Silos, ed. Fitz-Gerald; SLor. = Berceo, El Martirio de San Lorenzo, ed. Marden; SMill. = Berceo, Vida de San Millán, ed. Marden, and BAE, vol. 67; SOr. = Berceo, Vida de Santa Oria, ed. Marden; Milg. = Berceo, Milagros, ed. Solalinde.

[4] Also GE 1.7b, 23b, 32a, 83a, 85a, 86a, 99b, 153a, 612b; PC 32b, 44a, 50b, 79a, 95a, 109a, 155a, 156a, 161a, 217a, 219a, 230a, 231a; Sac. 2d, 161d; Apol. 296a, 499d; Pi. 1b, 13d, 14a.

to go on this pilgrimage; they all DECIDED (to do so) and then went their way' SMill. 417c.—*e acordaron que era meior de salir et matar se con ellos, que no morir alli de sed* 'and they DECIDED that it was better to go out and fight it out with them rather than die there of thirst' PC 75a.20.

(b) 'to fit, correspond to': *las dos* [*letras*] *en ell uno* [*marmol*] *et las dos en ell otro, que dizien Roma y estos fallo y despues Romulo quando la poblo, et plogol mucho por que acordauan con el so nombre* 'the two letters on one marble and the two on the other, which said Roma, and Romulus found them there when he founded Rome and he was much pleased because they CORRESPONDED to his name' PC 85a.11.

(c) 'to gather about one, consult, summon, unite': *acordo con sus cabdiellos et con los omnes buenos et sabidores de su huest, et fallo con ellos ques armassen todos et uiniessen sobrel de noche* 'he CONSULTED with his leaders and the good and wise men of his army and decided with them that they should arm and come upon him by night' PC 59b.23.—*e los que estas batallas assi departen cuentan que luego enpos esto, cobdiciando Julio Cesar lo que antes cobdiciaua de seer el solo sennor de tod el imperio, non gelo suffrio el coraçon et acordo sus compannas et sus poderes a grand priessa* 'and those who thus describe these battles tell that not long after this, Julius Caesar, desiring, as he had formerly done, to be the only lord of all the empire, was not satisfied, and he SUMMONED his companies and his hosts in great haste' PC 81a.71.

(d) 'to be fitting, in keeping with': *Par Dios, Eneas, bien acuerda est espada con el gualardon que me das, ca en el fecho parece quem la dist con que me matasse* 'Heaven knows, Aeneas, that this sword IS IN KEEPING with the payment you make me, for, truly, it seems that you gave it to me for me to kill myself with' PC 43b.33.

The following forms related to *acordar* present meanings similar to it.

(a) *ACORDADO* 'made equal, well organized': *e otrossi de como acordados en aquel mal en que estaban, fueron e dieron le delas foçes con que segauan* 'and also AS IF ONE in their woe they went and struck him with the sickles with which they were reaping' GE 1.607a.47.—*salieron much acordada mientre* 'they went forth IN A WELL-ORGANIZED FASHION PC 47a.47.—*Estonce pararon sus azes damas las partes much acordadamientre e lidiaron* 'they drew up their columns on both sides IN AN ORDERLY MANNER and fought' PC 22a.16.

(b) *ACORDANÇA* 'agreement': *si las ymagenes desuso non an acordança con estas ymagenes* 'if the above images DO NOT CORRESPOND to these images' Pi. 13b.

(c) *ACUERDO* 'agreement, treaty, decision': *del acuerdo que tomaron sobre esto Abeniaf et el adelantado de Xativa* 'of the DECISION that Abeniaf and the adelantado of Játiba came to in this matter' PC 571b.46.

(d) *DESACUERDO* 'confusion, opposition': *pues que bandos et desacuerdos andauan entrellos* 'since factions and DISORDERS were rife among them' PC 549a.2.

(e) *DISCORDIA* 'discord': *la discordia que era grand entrellos* 'the DISCORD that was great among them' PC 548.33.

(f) *DESACORDADO* 'disordered': *veye que los moros estauan todos desacordados* 'he saw that the Moors were IN A STATE OF CONFUSION' PC 548a.30.

3. Cases referring to mental states

(a) 'to be in one's senses, to be master of one's self': *Lamech quando sopo que el auie muerto a Caym, maguer grande era el pesar que ouo ende, acordo se de dezir al moço que le leuasse alla e quel uerie por que oyesse el de Caym algunas palabras* 'when he learned that he had killed Cain, although the sorrow he had because of it was great, Lamech was sufficiently COMPOSED to ask the boy to take him there to see Cain and hear some words from him' GE 1.17a.11.

(b) 'to come to one's senses, to recover from madness': *Quand esto oyeron los troyanos, quisieron le matar; mas el rey non quiso, teniendo que lo dizie con locura; e por end tolloge, e metiol en fierros por ueer si acordarie* 'When the Trojans heard this they wished to kill him, but the king would not allow it, holding that he said it from madness; he therefore took him away and put him in irons to see whether he WOULD COME TO HIS SENSES' PC 13a.16.

(c) 'to be awake, to awaken; to recover from a swoon': *pusieron le a la duenna dolient luego la una cruz desuso, et no acordo; . . . et pusieron le la tercera, et leuantosse luego sana et guarida et muy alegre a marauilla, et començo a andar corriendo por toda la casa dando loor a Dios* 'they placed one cross over the ailing lady but she DID NOT COME TO, and they placed the other cross over her and the same thing happened, and then they placed the third over her and she rose up immediately, well and cured and wonderfully merry and began running through all the house praising the Lord' PC 193a.42.—*La gloriosa Madre . . . cadio en tierra muerta commo de mal rabioso . . . . Los qui li sedien cerca por tal que acordasse, Vertienli agua fria* 'the holy Mother fell in a swoon to the ground as from some grievous ill. Those who were near her poured water over her to see whether SHE WOULD RECOVER' Duelo 111c.—*et desmayo tanto que alli perdio toda esperança de bien, assi que yogo por muerto una grand pieça sin fablar; et desque acordo, rompio sus pannos et firiosse mucho en la cabeça* 'and he was so overcome that he lost all hope of recovery, so that he lay as if dead for a long time without speaking; and when he had RECOVERED he tore his clothes and struck himself often on the head' PC 127b.13.

(d) 'to come to one's senses, to be aware': *Respondra el diablo: tardi vos acordastes; quando poder aviades esto non lo asmastes* 'The devil will answer: YOU HAVE COME TO YOUR SENSES too late; when you could have done this you did not bother about it' Loores 186a.

(e) 'to make sensible, clear': *Por acordar la cosa, meior la compilar, mas de luene auemos la razon a tomar* 'TO MAKE the matter CLEAR, to put it together better, we must go into more detail' Sac. 144a.—*conujene nos la materia cambiar, non podriamos sin esso la razon acordar, por que nos alonguemos bien sabremos tornar* 'we must change the subject, for we could not otherwise make the matter HAVE SENSE. If we stray it will only be to return' SDom. 186c.

(f) 'to speak, reason': *A cabo de tres sedmanas, la quarta querie entrar, mio Cid con los sos tornós a acordar: el agua nos an vedado* 'At the end of three weeks and at the beginning of the fourth the Cid once again TOOK COUNSEL with his men: they have forbidden us the water' C 666. Then follows a discussion ending 670: *dezidme, cavalleros, cómmo vos plaze de far.* Likewise 828: *mio Cid Roy*

Díaz con los sos acordando: '*Ides vos, Minaya*?' 'the Cid COUNSELLING with his men: Will you go, Minaya?'

(g) 'to enlighten, encourage, comfort, advise': *castigaua los pueblos el padre ementado, acordaua las gentes, partialas del peccado, en visitar enfermos non era enbargado*: *sy podia fer limosna faziala de buen grado* 'the worthy father COUNSELLED the people and comforted them, led them from sin; he was diligent in visiting the sick; if he could give alms he did so gladly' SDom. 465.—*Salidos son todos armados por las torres de Quarto, mio Cid a los sos vassallos tan bien los acordando* ('previniendo o aleccionando muy bien a sus vasallos', Menéndez Pidal's note to the line) 'Armed, they all went forth through the towers of Cuarto, the Cid INSTRUCTING his men' C 1712.

(h) 'to prepare' (?): *Entre Minaya e los buenos que í ha acordados foron, quando vino la man* C 3056. Menéndez Pidal's note to this line reads: 'Tanto Minaya como los buenos que hay allí estaban preparados cuando vino la mañana' (Minaya and the good men who were there were PREPARED when morning came). These lines follow the Cid's vigil: *Mandó fazer candelas . . . sabor a de velar en essa santidad, al criador rogando e fablando en poridat* 'He had the candles lighted; he wishes to keep vigil in that holy place, praying and speaking in secret with the Lord' C 3055–8. May *acordar* mean here: 'Minaya and his good companions were AWAKENED or WOKE UP'? (The passive construction for reflexives and intransitives is very common in the Cid: *es tornado, es venido, era pagado* 'he has returned, has come, was pleased'.)—*pora la capiella adeliñava; con quantos que él puede, que con oras se acordaron . . . recibir salien las dueñas* 'he proceeded to the chapel and went out to receive the ladies with all those who were PREPARED in time' (?) C 1581.

(i) 'to learn (by heart)': *Su licion acordada, vinye a almorzar* 'her lesson LEARNED, she came to eat' Apol. 354d.

(j) 'to remember': *Oydo lo auedes, si bien vos acordades, este Abbat benito, lunbre de los Abbades* 'You have, if you RECALL, heard about this blessed abbot, the very model of abbots' SanD 223a.—*De suso la nombramos, acordaruos podedes* 'We mentioned her before, you may RECALL' SOr. 6a.—*acordandose Octaviano de cuemo venciera en tal mes a Antonio* 'Octavian REMEMBERING that he had conquered Antony in such a month' PC 103a.25.—*Acuerdate agora de como el regno de los godos fue siempre abondado de grand sabiduria et de mucha nobleza* 'RECALL now that the kingdom of the Goths was always rich in wisdom and great nobility' PC 322b.17.—*Et el non acordandosse de su sennor Yuçuf Abentexefin quel enviara por sennor* 'and he, FORGETTING his lord Yusuf Abentexefin, who had sent him to be lord' PC 554a.31.—*acordose su ayo de como lo judgaron los sabios* 'his tutor RECALLED what the judgment of the wise men had been' JRz. 135a.—*acordad vos de la fabliella* 'REMEMBER the proverb' JRz. 870a.—*Non me acorde estonce desta chica parlylla* 'I didn't REMEMBER then this little proverb' JRz. 921a.[5]

Related forms present similar meanings.

(a) *ACORDADO* 'prudent, sensible, aware': *Essos fueron, sin dubda, omnes bien*

[5] Doubtful: Vino a Sant Mjllan, logar bien ordenado, demando la mongia, dieron gela de grado: fue bien si acordasse la fin en este estado SDom. 83d.

acordados, Qui por salvar las almas dexaron los poblados, visquieron por los yermos mezquinos 'Those were doubtless very PRUDENT men who to save their souls left the towns and lived in desert wastes' SDom. 60a.—*Lo que una vegada a Dios es ofrecido Nunca en otros usos debe ser metido, Qui ende lo camiasse serie loco tollido . . . . Si esto por ti viene eres mal acordado, si otri lo conseia eres mal conseiado* 'What has once been offered to God must not be put to other uses. He who would then change it would be completely mad. If you alone are responsible for this you are very IMPRUDENT; if another counsels you in it you are advised unwisely' SDom. 140a.—*Dixo palabras pocas, razon acordada* 'he said few words, a SENSIBLE discourse' SDom. 98d.—*Nunca torno la cara el baron acordado* 'The WORTHY man never turned his face' SMill. 51a.—*Tovieron que ficieron commo bien acordados* 'They considered that they had ACTED WISELY' SMill. 426d.—*Un sermon fizo Peidro commo omne acordado* 'Peter made one speech like a WISE man' Loores 139a.—*En prender el su seso fueron bien acordados commo si los ouiesse Sant Paulo doctrinados* 'In making up their minds they were INTELLIGENT, as if Saint Paul had counselled them' SLor. 4a.—*Que roydo auedes leuantado? Non ha entre vos todos uno bien acordado?* 'What noise is this you have stirred up? Isn't there a SENSIBLE person among you?' SDom. 510c.

(b) *RECORDAR* 'regain consciousness': *Estonces el abbat demando del agua et echola al judio en el rostro et recordo* 'Then the abbot asked for water and threw it in the Jew's face and he RECOVERED' PC 642b.47.

(c) *CUER* 'heart':[6] *de cuer les pesa* 'it affects them DEEPLY' C 2317.—*Spidios el caboso de cuer e de veluntad* 'The worthy one went his way GLADLY and willingly' C 226.—*E quiero que escriuades agora este cantico que uos dizre adelant, e ensennalde a los fijos de Israel quel tengan de cuer yl canten* 'I want you to write the song I shall tell you later and I want you to teach it to the children of Israel that THEY MAY LEARN it and sing it' GE 1.744b.7. (The variant in H reads *de cor.*)—*Dicie entre su cuer* 'He said TO HIMSELF' SMill. 416.—*Ruega entre*

[6] Related forms: *corada* (< *cuer, corazón*); *cueral, coral,* adj. 'gemitos corales' Milg. 784, 'cueral amor' PC 501a.11; *cordojo, cordojoso.*

For discussion of *decorar* see K. Pietsch, Mod. Phil. 7.50; H. Gavel, Homenaje a Menéndez Pidal 1.137–50; Revista de Filología Española 12.397 (1925); LANG. 7.215 (1931). *Decorado* is listed in the vocabulary of Cejador and that of Keller (Contribución al Vocabulario del Poema de Alexandre). Du Cange offers no suggestion that *chorus* is in any way the origin of *decorar.* Under *cor,* however, are listed: *Fertur corde tenus sic homilias Quadraginta legens scire* 'know by heart, learn'; *Psalmorum etiam verba et distinctiones regulariter et ex corde cum canticis consuetudinariis pronuntiare sciat* 'know by heart'.

The example in Milg. 745 seems to indicate 'prudent', 'sagacious': *Dios sennero lo saue, que es bien decorado.* Other examples from Berceo: *El decoro lo todo commo bien entendido, Bien lo decoro esso como todo lo al* SLor, 170–1. *De hymnos e de canticos bien e gent decorado* SDom. 38.

For the argument of *chorus* > *coro* > *decorar* it is of interest to note that there seems to be no case of *chorus* > **cuero* recorded in the vocabularies of the earlier texts. *Coro* is found PC 774b.15; GE 1.448b.11; Sac. 283d, 247c; SDom. 88a, 118b, 121b; SMill. 306a; SOr. 63a, 67a. Sac. 7a has a variant *choro* (N). This would imply that *coro, choro* was still considered to be a learned word. Juan Ruiz uses *coro* 1399a; but in the conjugation of *decorar* he writes: por ende cada uno esta fabla decuere 'let everyone LEARN'. The idiom *tener de cuer* 'de-cor-ar' is attested above GE 1.744b.7.

su cuer al padre uerdadero 'He prays FERVENTLY to the Almighty' Sac. 207.—*Que oymos la lengua mas el cuer non sauemos* 'For we hear the tongue but we know not THE HEART' SDom. 95.—*de buen cor lo dixieron* 'they said it GLADLY' SDom. 210.

(d) *CORAÇON* 'heart': *aquella dubda que auie en su coraçon* 'that doubt that he had in his HEART, PC 550a.17.—*plazie al rey don Alffonso et tan a coraçon lo auie* 'it pleased Don Alfonso VERY MUCH INDEED' PC 547a.25. Compare modern *descorazonar* 'discourage', *descorazonamiento* 'discouragement', *descorazonadamente* 'in a discouraged manner'.

(e) *CUERDO* 'prudent, wise':[7] *omne cuerdo et entendudo* 'a PRUDENT, wise man' PC 315b.42.—*Començe de demostrarse por manso et cuerdo* 'At first he seemed gentle and PRUDENT' PC 328a.49.—*Despues desto tractaron cuerdamientre dell ordenamiento de las eglesias* 'Then they INTELLIGENTLY studied the ordering of the churches' PC 326b.27.—*tomo locura aquel su fijo como non era bien cuerdo e que la mato* 'that son of hers, because he was not very INTELLIGENT, went mad and killed her' GE 1.105b.36.—*como no era bien cuerdo nin entendiendo que se fazie* 'since he was not very BRIGHT and didn't understand what he was doing' GE 1.105a.20.—*mancebo muy bueno et much apuesto en todas las cosas et muy cuerdo* 'a youth who was good and very capable and BRIGHT' PC 197a.8. Also PC 18b.16; 31a.5; 32a.42; 197b.50; 308a.10.

(f) *TRASCORDAR* 'to lose consciousness in drunkenness': *con la beudez trascordosse e echose a dormir* (variant in B: *trastornose*) 'HE WAS OVERCOME by drunkenness and lay down to sleep' GE 1.36b.9.

It seems a little difficult to attribute all the forms in this last section to the influence of *chorda* 'string, cord, chord', since *cor* enters so easily into words and idioms of this kind.[8]

Latin also possessed a number of expressions referring to emotional and mental states that are plainly based on *cor*: *cordi est* (*alicui*) 'it pleases; it is agreeable, clear'; *cordātus* (mostly ante- and post-Classical) 'wise, prudent, judicious, sagacious' (obviously based on the meanings 'wit, judgment, courage, affection' that *cor* has in addition to the usual 'heart' and 'mind'; cf. Sp. *acordado*); *praecordia* 'mind, affection'; *recordor* 'to call to mind, remember'; *excors* 'heartless, witless, foolish'; *vēcors* 'mad, doting'; *vēcordia* 'madness, rage'; *corculum* 'a sweetheart'; *corculus* 'a wise man' (Pliny). These examples indicate that *cor(d)* > *acordar(se)* in this sense is by no means impossible.

If we examine the cases in the second group we shall find good Latin authority

[7] From *cordātus* REW[3] §2228. We should have expected this form to produce **cordado* or *a-cordado*, which is doubtless the case. *Cuerdo* seems to be only a post-verbal deriving from **cordus*.

[8] Modern European languages have so many expressions involving *cor* and *heart* that only a few need be mentioned: Ptg. *acordar* 'wake up', *recordar* (often with the same meaning), possibly *decorar* 'learn by heart'; Fr. *ne pas avoir le cœur à l'ouvrage* 'not have one's heart in it', *prendre une chose à cœur* 'take something to heart', *peser sur le cœur* 'weigh on one's heart', *par cœur* 'by heart', *de bon cœur* 'willingly'; Eng. *learn by heart, not have the heart to do something, dishearten, as a man thinketh in his heart, have a heart!* In the Semitic languages, cf. Ar. *qalbun* 'heart, mind, intelligence', *qalbiyyun* 'hearty, cordial': *aškuru-ka šukran qalbiyyan* 'I thank thee a hearty thank (i.e. cordially)'.

for this meaning also: *discordia, discordō, discors, discordiōnis*; *concordāre, concorditer, concors*. These words were used in the senses in which the modern languages employ them.

As for the first group—words referring to music and harmony—it is plausible enough to derive them from *chorda*; but even here the Latin apparently used derivatives of *cor* to express these ideas: *symphōnia discors* 'discordant'; *concordi dixere sonō* (Ovid) 'harmonious'. We have, therefore, good authority for reaffirming *cor* as the ultimate source of *acordar* in purely musical terminology as well as in words of agreement and consent and in words referring to mental and emotional states.

From the Spanish examples cited the semantic development should be clear. The first two groups are simple enough; and the present use of *acordarse* 'to remember' is not a difficult development if one bears in mind that it is almost identical with Latin *recordor*, both in meaning and use. It is fairly easy to see from the examples given that the principal change in meaning has been a process of narrowing-down: 'to be aware' > 'to have one's senses about one' > 'to be alert' > 'to return to consciousness' > 'to be reminded'.

In view of these examples it may be well to reconsider *acordarse* before we definitely accept *chorda* as its etymon, except, perhaps, in group 1, where there is no reason to suppose that the Spanish word could not derive from either source. The form *acorde* 'harmony, in tune' seems to be a learned word. It has not been noted in early texts. The Diccionario Histórico gives only late examples, as does Cuervo. It is not recorded in the PC or the GE 1, in Berceo, or in any vocabulary of early texts I have consulted.

My conclusion would be, with Cuervo, that derivatives of *cor, cordis* furnished the basis of *acordar* in all its senses; but contrary to his opinion, I should allow an early strengthening of the meanings 'harmony' and 'harmonize', 'accord', because of the early use of *cuerda* as a musical term. It is impossible now to draw a line of division between the evolution of *(dis)cordia* and *chorda*, *(ac)cordāre* and **(ac)chordāre*. It seems likely that later periods saw no great connection between *acordar* and *chorda*, and proceeded to use a learned form *acorde* as a musical term and then, with secondary meaning, as a general term of agreement. My conclusion is, then, that the REW[3] §71a is not sufficiently inclusive; that Cuervo is too inclusive; that there is a mixture of two phonetically similar etyma; but that *acordar* and its derivatives may all eventually be derived from *cor, cordis*.[9]

[9] The large number of examples of *corazón* now available in the Alfonsine files offers material for an interesting semantic study; but it has been thought best to ignore related words unless they had some bearing on the determination of the etymology of *acordar*.

IS UGARITIC A CANAANITE DIALECT?

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[Ugaritic does not share in the features which are most characteristic of Canaanite, in particular the Canaanite innovations. Hence it cannot be classified as a dialect of the Canaanite branch of Semitic. Ugaritic displays, however, a definite relationship to the language of the Amurrites, for which the name 'East Canaanite' is to be rejected. A part of the alleged 'Old Canaanite' words preserved in Egyptian transliteration likewise originate with the Amurrites, who played an important rôle in Palestine as well as in Syria.]

The excavations at Rās Shamra[1] have recovered a literature written in a new alphabet and composed in a Semitic tongue, the place of which within the family of Semitic language is not immediately clear. The ancient name[2] of Rās Shamra is Ugarit; we are therefore justified in calling the language Ugaritic.[3]

The age of the Ugaritic tablets has frequently been overestimated. The majority were written for the library of a king Niqmeda. The fact that Niqmeda exchanged letters with the Hittite king Šuppiluliumaš (1st half of the 14th century)[4] gives us the decisive chronological clue. In other words, Ugaritic was still spoken in the Amarna age to which our oldest testimonies for Canaanite[5] must likewise be assigned. Hence, Ugaritic cannot represent an older

[1] For a general orientation consult C. F. A. Schaeffer, Ugaritica 1 (1939), and the same author's book The Cuneiform Texts of Ras-Shamra-Ugarit (1939). The first-mentioned work contains an exhaustive bibliography.

In the footnotes to the present article, titles of periodicals and other works are abbreviated as follows: AfO = Archiv für Orientforschung; Arch. Or. = Archiv Orientální; BA = Beiträge zur Assyriologie; BASOR = Bulletin of the American Schools of Oriental Research; EA = El Amarna; GGA = Göttinger Gelehrte Anzeigen; JAOS = Journal of the American Oriental Society; JBL = Journal of Biblical Literature; JPOS = Journal of the Palestine Oriental Society; JRAS = Journal of the Royal Asiatic Society; MAOG = Mitteilungen der Altorientalischen Gesellschaft; OLZ = Orientalistische Literatur Zeitung; Or. = Orientalia; RA = Revue d'Assyriologie; RHA = Revue Hittite et Asianique; RHR = Revue de l'Histoire des Religions; UET = Ur Excavations, Texts; UMBS = University of Pennsylvania, The University Museum, Publications of the Babylonian Section; VS = Vorderasiatische Schriftdenkmäler; ZA = Zeitschrift für Assyriologie; ZAW = Zeitschrift für die Alttestamentliche Wissenschaft; ZDMG = Zeitschrift der Deutschen Morgenländischen Gesellschaft; ZDPV = Zeitschrift des Deutschen Palästina Vereins; ZS = Zeitschrift für Semitistik.

[2] The identification was independently suggested by Albright (AfO 7.165, fn. 9 [1931]), Forrer, Dussaud, and Thureau-Dangin (Syria 18.26 ff. [1932]; 15.120 ff. [1934]). It has been universally accepted.

[3] The term was first used by H. L. Ginsberg.

[4] Schaeffer, Syria 20.287 (1939); Virolleaud, CR du Groupe linguistique d'études Chamito-Sémitiques 3.64 (1939); RHA 5.173 f. (1940).

[5] F. M. Th. Böhl, Die Sprache der Amarnabriefe (1909); E. Ebeling, Das Verbum der El-Amarna-Briefe (= BA VIII 2) (1910); E. Dhorme, Rev. Bibl. 1913.369 ff.; 1914.37 ff., 344 ff.

stage of the language from which Hebrew and Phoenician sprang. Ugaritic and Early Canaanite exist side by side.

The bulk of the Ugaritic texts is epical in content. The literary problems raised by this fortunate circumstance, more specifically the obvious relations between Ugaritic and Biblical style and phraseology, seem to have captivated the attention of scientific observers to such an extent that the linguistic issue became obscured. The resemblances between Ugaritic and Hebrew appeared so dominant that the new language was readily considered 'Early Hebrew',[6] 'Early Phoenician',[7] or an early dialect of the Canaanite[8] family. Several scholars, all of them trained linguists,[9] have expressed disagreement, but their warnings[10] have been disregarded. Two recent American publications, Zellig Harris's book Development of the Canaanite Dialects[11] and Cyrus Gordon's Ugaritic Grammar,[12] proclaim the appurtenance of Ugaritic to the Canaanite family as an established fact.

In reality, an attempt to prove this view has never been made; it has merely been taken for granted. The great assurance with which it is nevertheless advanced without even mentioning the objections that have been raised makes it imperative to investigate the foundations on which it rests.

The question: Canaanite or not Canaanite? presupposes a clear definition of what Canaanite is, and by what characteristics Canaanite becomes distinguishable from the related Semitic languages. Only when such a definition is given will it be possible to ask whether Ugaritic shares in the characteristics of Canaanite or not.

For this purpose the following list of phonological, morphological, and other features characteristic of Canaanite—i.e. the reconstructed language from which Hebrew and Phoenician derive—may be set up:

(1) PS[13] *ḥ* and *ḫ* have coalesced; the result is *ḥ*.[14]

(2) The PS interdentals *ṯ* and *ḏ* have merged with the sibilants *š* and *z* respectively.[15]

[6] Th. H. Gaster, JRAS 1932.857 ff.; R. Dussaud, RHR 100.274 (1932); Les découvertes de Ras Shamra et l'Ancien Testament 57 (1937); J. A. Montgomery, The Ras Shamra Mythological Texts 16 ff. (1935).

[7] Virolleaud, Syria 12.15 ff. (1931); Danel 78 (1936); Dussaud, RHR 118.168 (1938).

[8] Ginsberg, Or. NS 5.178 f. (1936); Albright, JPOS 12.185 ff. (1932); 14.105 ff. (1934); cf. BASOR 70.20 ff. (1938) (Albright has propagated the term 'North Canaanite'); Z.S. Harris, A Grammar of the Phoenician Language 6 f., 67 ff. (1936); Smithsonian Report for 1937, 499 ff.; Guérinot, Syria 19.30 ff. (1938).

[9] Among them the first decipherer of the Ugaritic alphabet, Hans Bauer; see Das Alphabet von Ras Schamra, seine Entzifferung und seine Gestalt 64 ff. (1932).

[10] Cantineau, Syria 13.164 ff. (1932); Joh. Friedrich, AfO 8.241 (1932); ZA NF 7.311 (1933); Ras Schamra 27 (Der Alte Orient 33.1/2, 1933); A. Götze, Hethiter, Churriter und Assyrer 142 (1936).

[11] New Haven, Conn., 1939; see 10 f. (endorsed by Albright, JAOS 60.416 [1940]).

[12] Analecta Orientalia 20; Roma, 1940.

[13] I.e. Primitive Semitic.

[14] This shift is also Aramaic. For alleged preservation of *ḫ* as different from *ḥ* in Early Canaanite see below. The Canaanite alphabet has only one symbol for both sounds in Phoenicia as well as in Palestine.

[15] For the alleged distinction between *ṯ* and *š* in Early Canaanite see below. Again the

(3) Long *ā* has become *ō*.[16]
(4) PS *ṯ*, *ḏ*, *ṣ*, *ẓ*[17] appear uniformly as *ṣ*.[18]
(5) PS *ś*in, *š*in, and sāmekh are preserved as distinct phonemes.[19]
(6) PS *n* is assimilated to any consonant which immediately follows.[20]
(7) The verbal theme *qatala* is fully developed and has gained preponderance over *qatila* and *qatula*; it serves as the normal preterite.[21] Besides, the themes *yaqtul(u)*[22] and perhaps also *yaqattal(u)*[23] exist.

Canaanite alphabet possesses only one symbol. This circumstance gains in significance when it is realized that both Ugaritic and South Semitic share in a symbol for *ṯ* which can be assumed to have been inherited from a common source.

As to Phoenician, Friedrich (ZS 2.2 ff.) has demonstrated that the shift is prehistoric. There is no reason why an analogous assumption should not be true for Hebrew. In the Amarna letters we find glosses like *ša-aḫ-ri* 'door' (EA 244.16); *iḫ-ri-šu* 'I till' (AO 7098 [= RA 19.108, Mercer No. 248a], 11) and names with the element *ši-ip-ti* 'judgment' (EA 330.3), and there is no indication that the *š* set of signs is polyphonous. If one assumes a substitution, the *s* set or the *z* set (which in this syllabary also denotes sāmekh plus vowel) would have offered a much better solution for the difficulty.

Harris (Development 62 f.) argues that the difference in spelling between *La-ki-si* and *Ša-ak-mi* in the Jerusalem letters (EA 285–90) warrants the statement that at least in Jerusalem etymological *š* and etymological *ṯ* were kept apart. This argument is upset not only by the occurrence in the Jerusalem letters of *La-ki-ši* (EA 289.13), but also by the general observation that (as in Nuzu, cf. LANG. 14.136) *sa*, *si*, *su* serve as mere scribal variants for *ša*, *ši*, *šu*; cf. *māt Ka-si* (EA 287.72) and *māt Ka-ši* (EA 287.74) both representing Eg. *K-š*, furthermore *a-si-ru/i* (EA 287.54; 288.21) and *a-ši-ru* (EA 173.13; 268.19) probably equaling (see Zimmern, ZA 6.254) Hebr. *'āšīr* < **'áṯiru*.

The oldest Aramaic preserved interdentals.

[16] Harris, Development 43 f. Whether the shift is contingent on the stress or not, is irrelevant for our present purpose. The shift is older than the Amarna age for which we have witnesses from Byblos (*sú-ki-na* AO 7093 [= RA 19.102, Mercer 123a], edge 4) as well as from Jerusalem (*zu-ru-uḫ* EA 287.27). Aramaic preserved *ā*.

[17] For the positing of PS *ẓ* see below fn. 42.

[18] Examples are PS **mṯy* > Hebr. *māṣā* 'he arrived'; PS **'arḏu* > Hebr. **'æræṣ* 'earth', Ph. *'rṣ*; PS. **ṣalmu* > Hebr. *ṣælæm* 'picture, statue'; PS **ẓillu* > Hebr. *ṣēl* 'shade, protection'. In Aram. one finds *ṭ*, *'/q*, *ṣ*, *ṭ* respectively.

[19] Śin and šin had coalesced in Phoenician (Harris, Grammar 20; Development 33 f.); the Hebrew Masoretes had to use diacritical points to keep (Jerusalem) *ś* and *š* apart. The cuneiform syllabary of the Amarna period was unable to differentiate graphically between the two sounds so that Akkadian writings cannot help us to recognize the difference (cf. *ša-de-e* EA 287.56; *na-aš-ša-a* AO 7096 [= RA 19.106, Mercer 290a], 13).

In Aramaic *š* is preserved, but *ś* has merged with *s*.

[20] The same phenomenon in Akkadian and in Aramaic is due to independent development.

[21] For Phoenician see Harris, Grammar §12.1.

A 'perfect' identical with that of Canaanite is extant also in Aramaic, in North and in South Arabic. The formal pecularities of this tense make it absolutely certain that its development is interrelated. All these languages exhibit (1) the predilection for the form with middle *a*, **qatala*, (2) the final *-a* (which is never found in Akkadian, despite Albright, JBL 54.196 fn. 77), (3) the loss of the *ā* of *-āku*, the suffix of the first singular, (4) the replacement of the *k* in the remaining *-ku* by *t* (only South Arabic diverges by preservation of the older suffix), (5) a passival variety *qutila*. They also have in common the same force of the form.

[22] E. Dhorme, Rev. Bibl. 10.381; Ebeling, Das Verbum der El-Amarna-Briefe 50 f.

[23] One may expect that the distribution of the two forms followed the pattern preserved in Ethiopic.

(8) The first person singular of the theme *qatala* ends in *-tī*, i.e. it is **qataltī*.[24]

(9) The causative is characterized by the prefix *ha-*, which in accordance with Philippi's law appears as *hi-*.[25]

(10) With the verba primae *w* one has imperatives like **šīb* and **ṣi'*, and imperfects like **yašīb(u)* and **yaṣi'(u)*.[26]

(11) The independent pronoun of the first person singular is **'anōkī* (or **'anī*).[27]

(12) The independent pronoun of the first person plural is **'anaḥnū*.[28]

(13) The possessive suffix of the first person plural 'our' is *-nū*.[29]

(14) The interrogative pronouns are **miya* 'who?' and **mā* 'what?'.[30]

(15) There is a prepositive article *ha-*.[31]

(16) The dual of the noun shows the suffix *-ayma* for all cases.[32]

(17) The plural of the masculine noun employs the suffix *-īma* for all cases.[33]

(18) Under certain syntactic conditions a nota accusativi **'iyāt/*'īt* is employed.[34]

(19) In the existential sentence we find positive **yiš˘* and negative **'ēn˘*.[35]

[24] This is an innovation which is not shared by either Aramaic or Arabic. For Phoenician see Harris, Grammar 39 fn. 3; for the Amarna period Böhl, Die Sprache der Amarnabriefe 46.

[25] The *hiqtīl* is probably represented by *ḫi-iḫ-bi-e* EA 256.7; in Phoenician it has developed into a *yiqtīl* (Harris, Grammar §13.6). Aramaic, with an *'aqtel*, stands aside.

[26] For Phoenician see Harris, Grammar §14.3; for Amarna Canaanite the gloss *yi-ṣa* (EA 151.70) is pertinent. Aramaic apparently had corresponding forms which thus must be carried back to PS.

[27] This is a clear innovation in which Phoenician (Harris, Grammar §15.1) and Amarna Canaanite (*a-nu-ki* EA 287.66, 69) share. Aramaic knows only the shorter form *'enā*.

[28] The initial is due to an analogy which is found in both Hebrew and Phoenician (Harris, Grammar §15.1); for Amarna Canaanite evidence is lacking.

[29] For this innovation—in PS one has to reconstruct **-nā*—evidence is lacking in Phoenician, but extant in Amarna Canaanite; see Böhl, Die Sprache der Amarnabriefe 27 (§ 15b).

[30] In Hebrew **miya* has yielded *mī*, but in Phoenician the spelling *my* seems to indicate a bisyllabic form. In Amarna one finds *mi-ia-me* 'who?' (Böhl, Die Sprache der Amarnabriefe §18c). Contrast Aramaic *man* 'who?' and *mā* 'what?'.

[31] Since Arabic with prefixed *al-* and Aramaic with suffixed *-ā* diverge, this is probably an innovation. For Phoenician see Harris, Grammar §16.4; for Amarna Canaanite no evidence is available.

[32] For a possible occurrence in Phoenician see Harris, Grammar 60; in Amarna we read the gloss *ḫi-na-ia* 'my (two) eyes (nom.)' 144.17.

[33] For Phoenician see Harris, Grammar §18.2. On the basis of the Amarna gloss *šamu-ma* (EA 211.17) it may be doubted whether the limitation to one form is old. The quoted form is genitive, however. In Moabite one finds (as in Aramaic) *-īn* instead of *-īm*.

[34] For Hebrew see Gesenius-Kautzsch §117.1, for Phoenician Harris, Grammar 63, 76. The reconstruction of the original form is difficult because of the variations with which the word occurs; cf. Brockelmann, Grundriss 1.313 ff.; Bauer-Leander, Hist. Gram. der Hebr. Sprache 641 f.

[35] Evidence is available only in Hebrew (*'ēn* also on the Moabite stone), but the absence of the words in our Phoenician material is probably accidental. Aramaic possesses the related words *'īθay* (*'īθ*) and *laiṯ*.

(20) There is an optative particle **luwa* (?) (bisyllabic).[36]

As far as our knowledge goes, these characteristics are present when Canaanite makes its first appearance. Wherever changes from PS are involved, they have taken place in prehistoric times and their chronological order cannot be determined. Every feature constitutes an isogloss and helps to establish a language border that separates Canaanite from the related languages.

We have now to examine Ugaritic and to ask in what manner that language acted with regard to the features which we have set up as characteristic for Canaanite. The result is as follows:

(1) PS *ḥ* and *ḫ* are kept well apart; they are expressed by different symbols.[37]

(2) The PS interdentals are kept distinct from the sibilants. The voiceless *ṯ* is represented by a special symbol, i.e. it was in all probability preserved;[38] the voiced *ḏ* is written with the same sign as the voiced dental stop *d*.[39]

(3) The long *ā* is preserved.[40]

(4) PS *ṯ*, *ḏ*, *ṣ*, *ẓ* are represented by *ǧ*,[41] *ṣ*, *ṣ*, *ẓ*[42] respectively.[43]

[36] The Hebrew spelling *lw* suggests that (just as in *hw* 'he' < **huwa*) the *w* was originally consonantal. Compare Akk. *lū* and Syr. *lway*.

[37] Cantineau, Syria 13.167; J. Friedrich, Ras Schamra 23. It should be recalled that Aramaic acts like Hebrew in this respect; it cannot be proven, however, that the shift goes back to Northwest Semitic.

[38] H. Bauer, Alphabet 21 ff.; Cantineau, Syria 13.166; J. Friedrich, ZA NF 7.311; Ras Schamra 23. For an older period an interesting example seems to be offered by the geographical name *Ba-at-na* contained in the Old Assyrian tablet Hahn 3 (J. Lewy, Die Kültepetexte aus der Sammlung Frida Hahn, Berlin; see translation 4). In view of the Westsemitisms of the tablet in question the assumption is reasonable that the name is likewise West Semitic (Amurrite), i.e. represents the word *baṯnā* 'snake' (cf. *Bāšān*, *Bataneia* in Transjordan). The spelling with *t* tends to show that the interdental had not shifted to *š*; it may well indicate a preserved *ṯ* which could be spelled only by approximation.

[39] It seems improbable that this was merely orthographic. In favor of this possibility one has quoted the circumstance that for the usual *dpid* (a divine epithet) once the variant *žpid* is found (cf. Gordon, Ugaritic Grammar §4.1); since *ž* is a spirant, one has argued, *d* should be likewise. But the meaning of the epithet is altogether doubtful, it is not even necessarily Semitic.—A pertinent example, if not from Ugaritic, from 'Western Amurrite' is contained in the name of the city Damascus. When the Assyrians spelled this name ideographically as *šá imēri-šu* (for passages see Delitzsch, Wo lag das Paradies 280), they were aware of the fact that the name contained the determinative pronoun. We are thus justified to interpret the name as **ḏū-maśqi*, gen. **ḏī-maśqi* etc. 'the one (possessing) . . .'. Old occurrences of the name include *t-m-š-q* (Thutmosis, No. 13); *Du-ma-aš-qa* (EA 107.28); *Di-maš-qa* (EA 197.21); *Dì-ma-aš-qì* (EA 53.63); they invariably display a dental stop.

[40] Albright, JPOS 12.189; Friedrich, ZA NF 7.310.

[41] The sound thus transliterated corresponds in part to etymological *ǧ*, a fact that justifies the transliteration. Compare Albright, JPOS 14.104 f.; H. Bauer, Die alphabetischen Keilschrifttexte von Ras Schamra 66. The view of C. G. von Brandenstein (ZDMG 91.575) that we are dealing with a graphic variant of *ṯ* is in my opinion untenable; cf. Speiser, LANG. 16.334.

[42] For this sound see Albright, JPOS 14.105 f.

[43] Examples: *ṯ* in *mǧy* 'arrive', *nǧr* 'protect', *ǧm'* 'be thirsty' *ǧr* 'mountain'; *ḏ* in *árṣ* 'earth', '*ṣ* 'tree', *ṣin* 'Kleinvieh', *ṣb'* 'soldier' etc.; *ṣ* in *ṣd* 'hunt , *ṣǧrt* 'smallness', *nṣb* 'set

(5) Śīn tends to coalesce with šīn, but is still recognizable in a number of cases;[44] sāmekh is a separate phoneme.

(6) PS *n* is usually assimilated to an immediately following consonant.[45]

(7) The theme *qatila* is much more frequent than in Hebrew-Phoenician; it has predominantly stative force. The normal preterite is *yaqtul(u)*, beside which *yaqattal(u)* functions as a present-future.[46]

(8) The first person singular of the suffixed conjugation has a *t*-suffix;[47] the vowel after the *t* cannot be made out with our present means.

(9) The causative is characterized by the prefix *ša-*.[48]

(10) With the verba primae *w* we find imperatives like *ṯib* and *ṣi'*; in the prefixed conjugations we have to vocalize **yaṯib(u)*, etc., as proved by the first persons of the type *áṯb*.[49]

(11) The independent pronoun of the first person singular has come down to us as *ánk* and *án*; the vocalization (except for the initial *'a*) remains unknown.[50]

(12) No occurrence of the pronoun 'we' is known so far.

(13) The alphabetic inscriptions furnish only *-n* for 'our', without a vowel; proper names in Akkadian inscriptions from Ugarit suggest the reading *-nā*.[51]

(14) The interrogative pronouns are *my*, i.e. *miya*, for 'who?' and *mh*, i.e. either *māh* or *māhu*, for 'what?'.[52]

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up', *ṣḥ* 'yell, call' etc.; *ẓ* in *qẓ* 'summer', *ḥẓ* 'arrow', *ḥẓr* 'enclosure', *'ẓm* 'be strong', *rẓ* 'run', *ẓl* 'shade', *ẓr* 'back'.—As to the age of the shift from *ṯ* to *ǧ*, the observation is interesting that an Amurrite word *ʿūru* 'mountain' seems already to occur in the phrase *a-dì-ma ḫu-ri kaspim* 'to the silver mountain' in an inscription of Maništusu (Akkad Dynasty) (UMBS V 34 XXVI 62 f.).

[44] As far as *ś* and *š* are concerned, the situation has been correctly described by Ginsberg, Or. NS 7.3.

[45] C. H. Gordon, Ugaritic Grammar 4.12.

[46] JAOS 58.266 ff. Gordon, Ugaritic Grammar 50 fn. 2 asserts that Ginsberg Or. NS 7.1 ff. (does he refer to Or. NS 8.319 ff.?) has shown that *yaqattal-* does not exist. Ginsberg has not made such a sweeping demonstration; he has attacked a single point in my argument which does not affect my position. I may say here in passing that Ginsberg has convinced me of the validity of Barth's law, and that I have to make certain adjustments in my views.

[47] For examples see Gordon, Ugaritic Grammar 8.4.

[48] Agreement seems to be reached that the *šaf'el* is the normal causative in Ugaritic; cf. Harris, JAOS 58.103 ff.; Gordon, Ugaritic Grammar 8.34; Albright, JAOS 60.415. In our present context it is irrelevant whether or not there existed more or less isolated examples of an *'af'el*; I agree with Ginsberg (Or. NS 7.3 f.) that there is no unequivocal evidence for the *'af'el*.

[49] See JAOS 58.303 (1938).

[50] The vocalization **'anākī* and **'anī* (e.g. C. H. Gordon, Ugaritic Grammar 5.3) should be marked as conjectural in order not to prejudice the issue.

[51] I am referring to the proper names ^{d}UTU-MU-*na* (i.e. *Šapaš-šumu-na*) 'the sungod is our name' (Syria 15.138, line 21, cf. 145) and ^{d}IM-*la-na* 'the stormgod is ours' (RS 8.213 = Syria 18.247, line 3). Whoever rejects the evidence of these names has to assume that the Semitic population of Ugarit did not speak Ugaritic.

[52] The *h* of *mh* is of course consonantal; hence it cannot be equated with the orthographic *h* of Hebrew *mā*.

(15) If there is any article at all (it may be concealed by the lack of vocalization), it is certainly not prepositive.

(16) The dual of the noun employs an *-m* suffix; the existence of two cases, a nominative in *-ām(a)*, and an oblique in *-ēm(a)* is probable, though it cannot be strictly proven.[53]

(17) The plural of the masculine noun exhibits two forms, a nominative in *-ūma*, and an oblique in *-īma*.[54]

(18) There is no indication of a nota accusativi.

(19) In the existential sentence we have positive *ʾiṯ*, i.e. *ʾīṯ˘*, and negative *ʾin*, i.e. *ʾēn˘*.[55]

(20) There is an optative particle *l-* (monosyllabic).[56]

A comparison shows that Canaanite and Ugaritic agree in only three out of the twenty listed features (Nos. 5, 6, 10). Evidence is lacking in three more cases (Nos. 8, 11, 12). In the remaining fourteen points (Nos. 1, 2, 3, 4, 7, 9, 13, 14, 15, 16, 17, 18, 19, 20) we observe disagreement. The three features first mentioned cannot prove anything; the agreement is due either to the preservation of something old present already in Primitive Semitic (No. 10), or to easily understood parallel but independent development (Nos. 5, 6). It is worthy of particular emphasis that Ugaritic does not share in the specifically Cannanite innovations. Hence, the conclusion which must be drawn is that Ugaritic is not a Canaanite dialect.

The objection could be raised that this result is due to deliberate and unjustified limitations which have been imposed upon the available material, in particular to the exclusion of the so-called 'East Canaanite'. Would not consideration of that dialect enforce a wider definition of Canaanite?

In reply to this objection it must be emphasized that the term 'East Canaanite' is a misnomer; its acceptance, despite the almost unanimous rejection of the historical thesis from which it derives, is in turn responsible for the creation of the other term 'North Canaanite' which has been used for Ugaritic. The so-called 'East Canaanite' is not known by actual texts, but exclusively from numerous proper names which have survived in Old Babylonian documents;[57] the material will be multiplied from the archives discovered at Mari.[58] These names were labeled 'Amurrite' from their discovery until 1924. Only then, B. Landsberger[59] and Theo Bauer put forth the view that all the notions about a country Amurru, the Amurrites, and their language that had previously been

[53] For examples see C. H. Gordon, Ugaritic Grammar 7.4.

[54] Here the existence of two forms is certain from nouns with final alif; see C. H. Gordon 7.5.

[55] See C. H. Gordon 11.4.

[56] Since Hebrew *lū* and Akkadian *lū* are probably originally bisyllabic (see above fn. 36), I don't consider the vocalization **lū* (Gordon, Ugaritic Grammar 8.12) likely. More probable is *li*, as in Arabic.

[57] The material has been collected by Theo Bauer in his book Die Ostkanaanäer (1926); cf. the same author in MAOG 4.6 ff. and ZA NF 4.145 ff.

[58] See for the time being Dossin, Syria 18.105 ff., 20.97 ff.

[59] ZA NF 1.236 ff.

held were erroneous; that the names ascribed to them belonged in reality to a Canaanite tribe at home in the country east of the Tigris. All historians are agreed that the historical part of this thesis is untenable; after the discovery of the Mari tablets, which swarm with such names and prove that the persons who bore them lived all the way from the Tigris to the Mediterranean, it can no longer be even discussed. The Amurrites do have historical reality. In spite of this situation the term Amurrite has remained ostracized. It is high time to reinstate it in its proper rights.

Theo Bauer's main argument was not historical, however, but linguistic. He maintained that the evidence, scarce as it may be, allows the statement that the language in question was a branch of Canaanite. This argument calls for reexamination. We have to investigate the behavior of 'East Canaanite' with regard to the twenty points which have been posited above as Canaanite characteristics. The result is as follows:

(1) PS *ḥ* and *ḫ* cannot be distinguished; but it is well to remember that the cuneiform syllabary with which our material is written was unable to make this distinction.

(2) The PS interdental *ṯ* is kept apart from the sibilant *š*; the former is represented by signs containing *š*,[60] the latter by signs containing *ś*.[61]

(3) The long *ā* is preserved.[62]

(4) The sounds PS *ṯ*, *ḏ*, *ṣ*, *ẓ* are spelled uniformly with signs containing *z*. Since these signs are polyphonous, however, the merger was not necessarily complete, perhaps not even begun.[63]

(5) Šīn and šīn have coalesced; sāmekh is kept apart.[64]

[60] Theo Bauer, Die Ostkanaanäer 64; Albright's opposition (AfO 3.125) is unjustified (cf. Theo Bauer, ZA NF 4.157) and seems to have been abandoned by Albright himself (cf. BASOR 79.29 fn.). Attention may be called to the following new examples: *ša-pṯ-ṭú* 'judge' (Ostkanaanäer 81; Syria 18.111) because of Ug. *ṯpṭ*; *ba-ša-ni* 'snake' in the geographical name *Zi-ri-ba-ša-ni* (Amarna), cf. Aram. *paθnā*; the deity *A-ši-ir-tu* or *Aš-ra-tu*, the consort of the god Amurru, because of Ug. *ảṯrt*.

The essential fact is that PS *ṯ*, *š* (and also *s*) are kept distinct; the question as to the phonetic nature of the written *š* which appears in Amurrite is of minor importance. Before passing judgment, it is well to remember that the syllabary which is used for the Amurrite names is not the one created and used for Old Babylonian, but an older one which is related to Old Akkadian. In that syllabary *ša*, *ši*, *šu* represented the descendants of *ṯ*, while the signs usually transliterated (according to Neo-Assyrian usage) by *sa*, etc., were used for *śa*, etc. (śīn); sāmekh however was not differentiated from *ẓ* and *ṣ*. Thus, *š* may have been the closest available approximation to *ṯ*.

Cases of special interest are *Ia-ás-ku-ur*-AN (Bauer, Ostkanaanäer 30) and *Âs-kur-^{d}Adad* (Syria 18.111), which apparently reflect **yaḏkur* and **'aḏkur*. If *ḏ* were regularly represented by *z* in this language, one should expect, with unvoicing of the dental sibilant, **yaskur* with sāmekh. This, however, should appear as **ia-AZ-ku-ur* and not with the sibilant of *yaśma'* (spelled *ia-ás-ma-aḫ*). Hence it seems that *ḏ* was still preserved as an interdental.

[61] *Sa*, *si*, *su* should better be transcribed as *śa*, *śi*, *śu*; for sāmekh *za*, *zi*, *zu* are written. Theo Bauer's remarks ZA NF 4.158 are quite correct.

[62] Examples: *ša-pí-ṭú* 'judge', i.e. *šāpiṭu*; *Da-gan*, i.e. *Dagān*, cf. Hebr. *Dāγōn*.

[63] Examples: *ṯ* in *Ia-am-ZI*-AN 'El arrived' (Bauer, Ostkanaanäer 78); *ḏ* in *Ia-zi-* . . . '. . . has left' (ibid. 79); *ṣ* in *Ṣí-id-qí-e-bu-uḫ* (Syria 18.111), . . . *-ṣa-du-qá* ' . . . is righteous' (Ostkanaanäer 80); *ẓ* in *ḥaẓērum* 'parc à mouton' (Syria 18.108).

[64] For PS *š* it is enough to refer to the frequent occurrences of *šamšu* 'sun', *šumu* 'name,

(6) The nasal *n* is not always assimilated.[65]
(7) The theme *qata/i/ula* has stative force. The normal preterite is *yaqtul(u)*. Evidence for *yaqattal(u)* does not exist; but an argumentum e silentio is inadmissible.[66]
(8) No occurrence of a first singular stative is known.
(9) No clear causative is available.[67]
(10) Imperative forms of primae *w* have not been found; but in the prefix conjugation we have apparently the type *yušib*.[68]
(11) The independent pronoun 'I' is not known.
(12) Neither is the pronoun 'we'.
(13) The possessive suffix 'our' is represented by *-nā*.[69]
(14) The interrogative 'who?' is probably *mana*,[70] 'what?' may be expressed by *ma-a*.[71]
(15) There is no prepositive article; if the *-a* which is found after some nouns is an article, it would be postpositive.[72]

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son', *śm'* 'hear'. For PS *ś* more detail must be given, since Albright has on repeated occasions (e.g. JPOS 2.124 fn. 3; AfO 3.125) advanced the opinion that PS *ś* is in Amurrite represented by *š* (i.e. that Amurrite acts like Arabic). He based his contention on doubtful etymologies (cf. Theo Bauer, ZA NF 4.157 fn.) which are invalidated by a few clear cases that the Mari texts have since contributed: *si-im-a-al* (Syria 18.116) i.e. *śim'āl*, cf. Hebr. *śəmōl*, Aram. *śmālā*; *Ia-si-im-Da-gan* (Syria 18.111) 'may Dagan establish (him)', cf. Hebr. *Yəšīmi'ēl* (Noth, Personennamen No. 743); *Ṣidqu-la-naśi* (RA 36.48) 'let him be an owner of righteousness', abbreviated *La-na-su-ú-um* (Syria 18.111; Bauer, Ostkanaanäer 33); furthermore perhaps (with H. Bauer, ZAW NF 10.83 fn. 4) the element *sa-ri-e* (Theo Bauer, Ostkanaanäer 80), if correctly connected with Arab. *šariya* 'be resplendent'.

An example for the rare PS *s* (sāmekh; cf. Theo Bauer, ZA NF 4.159 fn. 2) is perhaps contained in *Ia-aḫ-ZU-up-AN* (Theo Bauer, Ostkanaanäer 26), which I am inclined to connect with Ug. *yḫsp* (I D 31) and derive from a root *ḥsp*; cf. Aram. *ḥsp pa"el* 'break to pieces', Ph. *ḥsp ifta'al* 'be broken', and Hebr. *ḥāṣeβ* 'split'.

[65] Theo Bauer, Ostkanaanäer 64.

[66] P. Schnabel, GGA 1927.48 f., and M. Noth, Die israelitischen Personennamen 23 f. (cf. OLZ 1927.946), described the situation more correctly than Theo Bauer, Ostkanaanäer 59; ZA NF 4.164 ff.

[67] Theo Bauer (Ostkanaanäer 66 f.) mentions *Ia-ú-zi*-AN as a certain, and *Ia-ú-ḫi*-AN as a probable example of a *hif'il*. It seems to me more likely that *ia-ú-zi* and *ia-ú-ḫi* should be read **yuṣī* and **yuḫī* and interpreted as imperfects of the basic stem. The perfect of the former has survived as *ia-zi*, *i-zi*. The relationship between *yuṣī* and *yaṣi* is analogous to that which exists between *yurū/ī* of *Uru-śalim* (Amarna), *Yərū-šālem* (Hebr.), *Urī-šlem* (Syr.) on the one hand and *yari-* of *Yari-muta* (Amarna) on the other; they mean '(God) Šalim has founded' and '(God) Mut founded' respectively (cf. now J. Lewy, JBL 59.521).

Unfortunately the existence of a *šaf'el* is not demonstrable. A possible occurrence may be contained in *Ia-ás-pu-qum* (VS XIII 3 rev. 15), if we are dealing with a form derived from the middle weak verb *p-q* which seems to denote 'satisfy' in Ugaritic (II AB VI 56; K 12).

[68] Cf. the preceding note.

[69] Theo Bauer, Ostkanaanäer 64; cf. Noth, OLZ 1927.947.

[70] *Ma-na-ba-al-te-el* is best explained as the Amurrite analog of the Akkadian type *Mannum-balum-ilim* 'who (can be) without god?' (cf. J. J. Stamm, Die akkadische Namengebung 328).

[71] Cf. Theo Bauer, Ostkanaanäer 77 s.v.; the meaning is perhaps 'what with us, O (god)?'.

[72] This is the view of J. Lewy (ZA NF 4.243 f.; cf. JBL 54.198 fn. 85) and of Hrozný (Arch. Or. 1.67 f.). The form *ila* can hardly be separated from the other nouns in *a* like *ḫala*, *kumra*; hence the equation with *'ilāh* (Dhorme, Rev. Bibl. 37.68, 164) is unsatisfactory.

(16) There are some indications for a dual nom. in *-ān*, and an oblique in *-ēn*.[73]
(17) Plural forms of the noun are not known.
(18) The question as to the existence of a nota accusativi cannot be answered for lack of material.
(19) The predicate of existential sentences is unknown.[74]
(20) The optative particle is *la-*.[75]

Unfortunately lack of evidence prevents us from making a statement in eight out of the twenty cases. Of the remaining twelve points, however, not a single one favors the Canaanite hypothesis. It can be added that in seven of them (Nos. 2, 3, 7, 13, 15, 18, 20) Amurrite coincides with Ugaritic; in an eighth case (No. 6) Amurrite may represent an older stage of development. In the remaining four cases (Nos. 5, 10, 14, 16) Amurrite goes its own way.

Thus we are able to conclude: Amurrite is not Canaanite; and furthermore: there exists a relationship between the Amurrite of the Old Babylonian period and the Ugaritic language of the Amarna age. When due allowance is made for the difference in age, the statement seems reasonable that Ugaritic is an Amurrite dialect.

Before this result can be accepted, we have to widen our horizon once more and consider the 'Old Canaanite' material which is allegedly contained in Egyptian documents and written in the so-called syllabic script. Part of it consists of exotic expressions which the Egyptians took over, part of it of proper names (particularly geographical names). This material[76] comes mostly from the New Empire and is at home in the vast area from the Egyptian border to Syria and Upper Mesopotamia. There is no doubt that it contains Canaanite elements. But the question must be put: is all of it Canaanite? If not, every single case requires individual treatment.

These Egyptian transliterations have in particular been quoted for the fact that they distinguish between PS *ḥ* and *ḫ* and also between PS *ṯ* and *š*. The conclusion has been drawn: here we have the proof that the merger of these sounds which we observe in Hebrew and Phoenician is relatively young. But it must be objected that it has never been proved that the respective words are Canaanite; this has merely been taken for granted.

Emphasis should be laid on the fact that the document which must be consulted in first place, the Palestine list of Shoshenq (ca. 920),[77] differentiates neither between *ḥ* and *ḫ* (it shows uniform *ḥ*) nor between *ṯ* and *š* (if the word *šbrt* = *šibbōlæθ* 'stream' contains etymological *ṯ*[78]).

[73] See Albright, JAOS 60.415 f.

[74] Theo Bauer's explanation of *La-ši-el-ka-a-bi-im* is not convincing.

[75] It occurs in *la-naši*, see above fn. 64.

[76] The most complete collection is that of M. Burchardt, Altkanaanäische Fremdworte und Eigennamen im Aegyptischen.

[77] The latest edition is that of J. Simons in Egyptian Topographical Lists (178 ff.).

[78] Cf. Harris, Development 63 fn. 64. The examples *š'r* 'gate' and *š'r* 'fangs' (Albright, Syll. Orthography 15.4, 5) are perhaps of a special kind, inasmuch as *ṯ* and *r* begin consecutive syllables. This may even in Amurrite have influenced the pronunciation without the

The older documents, in particular the great list[79] of Thutmosis III (first half of the 15th century), show both *ḥ* and *ḫ*, and where we can control it (e.g. *rḥb* No. 87 = *raḥābu* or something similar, but *ḫrqt* No. 112 = *ḫ'lqatu*) the signs are used in their proper place. But no one can tell from the names alone whether they are Canaanite or Amurrite.

In fact, there is overwhelming evidence for the presence of Amurrites as well as Canaanites in Palestine during the 2d millennium.[80] The Old Testament contains ample evidence to this effect, and it is borne out by the Amurrite elements in the onomasticon of the country.[81] In the Amarna age most of the Palestinian dynasts bear Amurrite names,[82] although they have adopted Canaanite speech. In the same period a kingdom Amurru,[83] not very powerful it is true, exists in the hinterland of the Phoenician coast. The Egyptian execration texts (early 2d mill.[83a]) show substantially Amurrite names, geographical as well as personal.[84] When, moreover, we compare the evidence of the Akkadian texts, particularly those of the kings of the Akkad dynasty[85] (middle of the 3d mill.) and now those from Mari (ca. 1800), we can hardly doubt that the end of the 3d and the beginning of the 2d millennium saw a great floruit of the Amurrites. Their influence is discernible in almost every branch of cultural life, not least in religion[86] and in literature.[87]

Amurrites themselves indicating the shift. The proper name *Kwšr* of the execration texts, if equaling *Kušaru* and Ug. *Kṯr*, seems likewise to belong here.

If the Eg. transliteration *škm*, which seems to reflect *ṯkm*, refers to *Šæχæm* in Palestine, an Amurrite form of the name would not be surprising; Gen. 48.22 still recalls that Shekhem had been an Amurrite city.

[79] Latest edition by J. Simons in Egyptian Topographical Lists 109 ff. M. Noth, ZDPV 61.26 ff., holds that the cities No. 1–52 are situated to the north, and the cities No. 53–119 to the south of a line running roughly from Mt. Karmel to Betshan.

[80] See B. Maisler, Untersuchungen zur alten Geschichte und Ethnographie Syriens und Palästinas.

[81] W. Borée, Die alten Ortsnamen Palästinas, made no attempt to distinguish the various layers of Semitic names.

[82] Most characteristic is the scheme *Yaf'al-'el*; see M. Noth, Die israelitischen Personennamen im Rahmen der gemeinsemitischen Namengebung 41 ff.

[83] Weber apud Knudtzon, Die El-Amarna-Tafeln 1132 ff.; F. Bilabel, Geschichte Vorderasiens und Aegyptens passim (see index); Ed. Meyer, Gesch. des Altertums 2.1².347 ff.; Honigmann and Forrer in Reallex. der Assyriologie 1.99 ff.; A. T. Olmstead, Hist. of Palestine and Syria passim (see index).

[83a] Cf. W. F. Edgerton, JAOS 60.492 fn. 44, and W. F. Albright, BASOR 81.16 ff.

[84] Albright, JPOS 8.223 ff.

[85] There is no reason to doubt the Amurrite character of *Dagān*, the god to whom Sargon and Narām-Sīn according to their own words (UMBS V 34 + UMBS XV 41; cf. Poebel, UMBS IV p. 173 ff. and Legrain, UMBS XV p. 12 ff.; UET I 274 ff.) owed the domination of Syria, nor any reason to reject the Amurrite names of the Narām-Sīn legend 2BoTU 3 as altogether fictitious (cf. Hrozný, Arch. Or. 1.65 ff.; Lewy, ZA NF 4.260 ff.; Güterbock, ZA NF 10.66 ff.).

[86] Rich material is contained in J. Lewy's article Les textes paléo-assyriens et l'Ancient Testament (RHR 110.29 ff.). Compare further H. S. Nyberg, Studien zum Religionskampf im Alten Testament (Archiv für Religionswissenschaft 35.329 ff.).

[87] The close relationship which connects Ugaritic literature with the Phoenician inscriptions on the one hand and with certain parts of the Old Testament on the other is explained by the cultural influence which the Amurrites exercised upon Syria and Palestine during the earlier part of the second millennium.

The Egyptian borrowings must be evaluated against this background. At all times words have traveled with the things they denote. The Egyptians learned to know a good many things in their colonies on the soil of Phoenicia and Syria, in places like Byblos and Ugarit. It is only natural that with them they borrowed their names. Wherever the source was Amurrite, they must keep *ḥ* and *ḫ*, *ṯ* and *š* distinct.

A great nation like the Amurrites, who played a rôle in the history of the world, and did so before the first Canaanite emerged from the obscurity of prehistory, should not be deprived of its own language; it should not be made into a dialect of an inferior nation. After all, it is history which creates nations, and among the elements which characterize great nations language is one of the most significant.

THE FINNISH DECLENSIONAL *e*-STEMS

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[This paper gives for the first time a comprehensive survey of Finnish dissyllabic *e*-stem nouns for the purpose of clarifying the declensional patterns. Words that cannot be classified by general rules are listed in full.]

Although I believe that the Finnish so-called long vowels are phonemically geminate clusters, I think that the term 'short-vowel stem' is a convenient designation for declensional or conjugational stems ending in a single vowel. In the following, when I speak of *me*-stems, *se*-stems, *te*-stems, etc., these are to be understood only as varieties of *e*-stems.

Every declined word in Finnish has a vowel stem to which all or most of the case endings are suffixed in the singular. Many words also have a consonant stem; many do not: neither type can properly be said to predominate. Those words that do have a consonant stem form the partitive singular on that instead of on the vowel stem, occasionally also an alternative essive singular form. The other words build the entire singular paradigm on the vowel stem, except, sometimes, for the nominative. Among dissyllabic stems this exception applies only to *e*-stems and pronouns. The plural declension need not be considered in this paper. If there is no consonant stem in the singular there is none in the plural.

Every vowel in the language occurs as stem vowel in the dissyllabic short-vowel stems. Except among the *e*-stems, there is no consonant stem; and (neglecting the pronouns) the nominative singular is the same as the stem: *paita* 'shirt', genitive *paidan*,[1] partitive *paitaa*; *häntä* 'tail', *hännän*, *häntää*; *viikko* 'week', *viikon*, *viikkoa*; *tyttö* 'girl', *tytön*, *tyttöä*; *lintu* 'bird', *linnun*, *lintua*; *myrsky* 'storm', *myrskyn*, *myrskyä*; *nyrkki* 'fist', *nyrkin*, *nyrkkiä*.

Some two-syllable given names in *-e* and a very few other dissyllabic *e*-stems follow this pattern exactly: *kolme* 'three', *kolmen*, *kolmea*. So *Aune*, *Kalle*, *Roope*, etc.; also *itse* 'self', *nukke* (frequently irregular in the plural) 'doll', *kaase* (obsolete or extremely rare variant of *kaaso*) 'bridesmaid'. And there are about a hundred of the dissyllabic *e*-stems that follow the same pattern except for a change of final vowel to *-i* in the nominative: *sormi* 'finger', *sormen*, *sormea*. The rest use a consonant stem for the partitive, like the polysyllabic *e*-stems, or else they show variation between the two types of declension.

The polysyllabic *e*-stems form a very large and important part of the Finnish vocabulary. Most of them are derived from shorter words by means of formative suffixes. They all have a consonant stem, which may or may not be identical with the nominative. Examples are *joutsen* 'swan', *joutsenen*, *joutsenta*;[2] *hapan* 'sour', *happamen*, *hapanta*; *väsymys* 'fatigue', *väsymyksen*, *väsymystä*;

[1] Certain consonant alternations in the stems are regular and automatic.

[2] The partitive ending is *a/ä* or *ta/tä*, according to circumstances. It is *ta/tä* with consonant stems, *a/ä* with all the vowel stems considered in this paper. The final vowel is *a* or *ä* according to the Finnish system of vowel concord usually called vowel harmony.

yksinäisyys 'loneliness', *yksinäisyyden, yksinäisyyttä,* essive (on the vowel stem) *yksinäisyytenä*; *pesijätär* 'laundress', *pesijättären, pesijätärtä, pesijättärenä*; *kolmas* 'third' (ordinal), *kolmannen, kolmatta, kolmantena*; *olut* 'beer', *oluen, olutta*; *iloinen* 'glad', *iloisen, iloista.*

The number of dissyllabic *e*-stems that use a consonant stem, after the fashion of all the polysyllabic *e*-stems, is slightly greater than the number of those that use the vowel stem exclusively, after the fashion of all the other dissyllabic short-vowel stems. A few follow exactly the pattern of *iloinen* (an extremely common pattern in derived words, mostly polysyllabic): *nainen* 'woman', *naisen, naista.* The rest regularly have the nominative in *-i*, and the consonant stem is usually the vowel stem minus the *-e*: *tuli* 'fire', *tulen, tulta.*

The purpose of this paper is to make a correct and comprehensive statement as to which of the dissyllabic *e*-stems are declined exclusively in the one way or in the other, and which alternatively in either. The ones with nominative in *-e* all show only the vowel stem. Those with nominative in *-nen*, like *nainen*, are all *se*-stems with simple intervocalic *-s-* and all have a consonant stem in *-s*.

Cannelin[3] 75–6, §9, and 77–8, §13, lists those with nominative in *-i*. All his lists are very full and he has probably omitted very few of the words in question. I know of only these: *Suomi* 'Finland, the Finnish language' (very likely omitted on purpose, as a proper noun), *kypsi* (a variant of *kypsä*) 'ripe', *nuori* 'young, youthful', *puoli* 'side, half', *uksi* (rare or obsolete) 'door', *viiksi* '(one side of the) mustache' (usually used in the plural). These two lists of Cannelin's ostensibly divide the dissyllabic *e*-stems with *i*-nominative into those that have only the vowel stem and those that have a consonant stem as well. Five words are in both lists and it is indicated that certain others might have been put into both. Here is where Cannelin is not altogether trustworthy; but in general the listing is dependable, and a safer guide than his statements on the subject in the grammatical section (11, §4.1 and 18, §6.3). Other incomplete and partly incorrect statements can be found in Eliot[4] 32 and 34, Jensen[5] 28–9, Saxén[6] 16–17, and the various grammars of practical instruction.

It is recognized that the declensional type depends in general on what consonant precedes the *e* and whether it is a simple (intervocalic) consonant or ends a cluster.[7] Double consonants are clusters. On the basis of Cannelin's lists and of general agreement in the grammars, and in large part from a consideration of permitted clusters, it can be accepted that words in clusters not ending in *t* or *s*, and also words in a simple *k*, *p*, or *v*, have only the vowel stem: *hanhi* 'goose', *hanhen, hanhea*; *ovi* 'door', *oven, ovea.* The only *je*-stem has the cluster *lj*, and has a shortened nominative: *veli* 'brother', *veljen, veljeä, veljenä.* Words in simple *h*,[8] *l*, *n*[9]—except *sini* '(the) blue (sky, firmament)', *sinen, sineä*—,

[3] Knut Cannelin, Finska Språket, Grammatik och Ordbildningslära; Helsingfors, 1932.

[4] C. N. E. Eliot, A Finnish Grammar; Oxford, 1890.

[5] Hans Jensen, Finnische Grammatik I: Laut- und Formenlehre; Glückstadt and Hamburg, 1934.

[6] Ralf Saxén, Finsk Ordböjningslära, 4th edition; Helsingfors, 1937.

[7] There seem to be no three-consonant clusters among the dissyllabic *e*-stems, although they occur among all the other dissyllabic short-vowel stems.

[8] One *he*-stem is irregular: *mies* 'man', *miehen, miestä, miehenä.*

[9] One *ne*-stem has a shortened nominative (as well as pronoun characteristics irrelevant to this paper): *hän* 'he, she', *hänen, häntä.*

r, *s*, and *t* have a consonant stem too: *vuohi* 'goat', *vuohen, vuohta*; *pieni* 'little', *pienen, pientä.*

The *te*-stems, except most of the *hte*-stems, have *-si* in the nominative. So we have *kuusi* 'six', *kuuden, kuutta, kuutena,* contrasted with *kuusi* 'spruce', *kuusen, kuusta, kuusena.*[10]

The *hte*-stems have to be treated separately. Except for these, the words in clusters ending in *t* are declined like the words in simple *t*: *kansi* 'lid', *kannen, kantta, kantena*; *varsi* 'shaft', *varren, vartta, vartena.*

Cannelin lists five *hte*-stems that retain the *ht* in the nominative. These are declined like the words in clusters not ending in *t* (or *s*): *lahti* 'bay, gulf, cove', *lahden, lahtea, lahtena*; *lehti* 'leaf'; *rehti* 'honest, upright'; *tähti* 'star'; *vyyhti* 'skein, hank, tangle'. For *vyyhti* Cannelin (11) gives an alternative partitive *vyyhtä.* Note the single *t*, as in the other *hte*-stems.

These are three in number. They have their nominative in *-ksi* and a consonant stem in *h*: *yksi* 'one', *yhden, yhtä, yhtenä*; *kaksi* 'two', *kahden, kahta, kahtena*; *haaksi* (rare or poetic) 'ship', *haahden, haahta, haahtena.* These, unlike the five *hte*-stems cited above, follow fairly closely the pattern of the *te*-stems in general.

The nominative of these three words is like that of the *kse*-stems, which have to be treated in one group with the *pse*-stems and the *tse*-stems, a group which covers all the *se*-stems ending in clusters. The words in this group have to be taken up individually. They follow no rule or consistent pattern, except *itse*, mentioned above, which is an *e*-nominative and is declined like the rest of that small group. Those with the normal *i*-nominative are *hapsi* 'hair', *kypsi* (relatively rare variant of *kypsä*) 'ripe', *lapsi* 'child', *ripsi* 'eyelash', *joutsi* 'bow (for arrows)', *peitsi* 'spear, lance', *suitsi* 'bit, bridle, rein' (normally used in the plural), *veitsi* 'knife', *suksi* 'ski', *sääksi* (rare variant of *sääski*) 'mosquito, gnat', *uksi* (obsolete or rare) 'door', *viiksi* '(one side of the) mustache' (normally used in the plural).

For these words I have gotten at the facts of usage with the help of educated speakers of the standard language.[11] There is general agreement that *ripsi* and *viiksi* have only the vowel stem, partitive *ripseä, viikseä.* Also there can be virtually no doubt that *lapsi* and *veitsi* are consistently declined in one way, the other way than *ripsi* and *viiksi.* They are very common words and usage has fixed their partitive forms definitely as *lasta*[12] and *veistä*; although one of

[10] There are not many dissyllabic *se*-stems in simple *-s*, and most of these are of the *nainen* pattern, not like *kuusi.*

[11] Dr. John B. Olli of the College of the City of New York, as my teacher and as my principal informant, has taken a lot of trouble in both capacities to help me with this and other problems of Finnish morphology. He has also interviewed Finnish-speaking friends on my behalf, both with direct questions on usage and to get Finnish translations of specially prepared sentences. I have dealt with my other informants by correspondence: New Yorkin Uutiset (newspaper), Brooklyn, N. Y.; President V. K. Nikander of Suomi College, Hancock, Mich.; Mr. Alfred Tiala, Waterville, Minn. (formerly with Tyomies Society, Superior, Wis.); the Finnish Lutheran Book Concern, Hancock, Mich. They have all been very friendly in giving me full responses to my inquiries. (Because of the nature of these inquiries, however, not every informant gave a response for every word investigated here.)

[12] The *p*, *t*, or *k* does not appear in the consonant stem.

my informants allows the *ea/eä* type, at least as a possible alternative, for all the words in the list, including even these two. It is agreed that *peistä* is commoner than *peitseä*; but *suksea* is commoner than *susta*.

For *joutsi* there is agreement that *jousta* is commoner than *joutsea*; but *jousta* is also the partitive of *jousi*, the commoner, better-known synonym of *joutsi*.

About *sääksi* there is so much uncertainty that this word had better just be written off as a very unusual variant of *sääski, sääsken, sääskeä*.[13]

A partitive singular of *suitsi* would not be of very frequent occurrence, but my informants tend strongly to prefer *suitsea* in spite of the analogic pull of *veistä, peistä*, and *jousta*, perhaps under some influence from *itseä*.

On *hapsi* and *uksi* there is complete disagreement; but *uksi* 'door' is obsolete or extremely rare, *ovi* being the ordinary word in use; and *hapsi* is not the commonest word for 'hair'.

This leaves only the *me*-stems in simple *m* still to be treated. They are, so far as I know, the following: *kymi* 'flood, deluge, river', *liemi* 'broth', *loimi* 'horse-blanket, warp-thread', *lumi* 'snow', *luomi* 'eyelid, birthmark', *niemi* 'cape, point, promontory', *nimi* 'name', *seimi* (rarely *soimi*) 'manger, crib', *Suomi* 'Finland, the Finnish language', *taimi* 'plant', *toimi* 'occupation, task', *tuomi* 'bird-cherry tree (Prunus padus)'. I have investigated the declension of these words in the same manner.[14]

Only one is consistently given by all informants (and all grammars that mention it) as always forming the partitive singular on a consonant stem: *lumi, lumen, lunta*.[15] The definite fixation of this form may be helped by the phrase *sataa lunta* 'to snow, it is snowing'. (*Sataa* alone is 'to rain' or 'it is raining'.) Other common words in this group show variation.

Three are always declined on the vowel stem only: *kymi, kymen, kymeä*; *nimi, nimen, nimeä*; *Suomi, Suomen, Suomea*. A form **Suonta* would conflict with *suonta*, partitive of *suoni* 'vein, artery, tendon, nerve'; **kyntä* would not be unlike the partitive of *kynsi* 'nail, claw, tine, prong', *kynnen, kynttä, kyntenä*; and against a form **nintä* a disturbing factor may be *niintä*, partitive of *niini* 'bast (for cordage)'.

All the other words in the group show both forms. However, *luomi* tends toward *luomea* rather than *luonta, seimi* tends toward *seimeä*, and *tuomi* tends strongly toward *tuomea*; while the rest tend rather toward the *nta/ntä* form, *toimi* quite decidedly so. As a girl's name *Taimi* gives *Taimea*, though *tainta* is the commoner form for 'plant'. One informant uses *loimea* for 'horse-blanket' but *lointa* for 'warp-thread'.

This whole examination of the Finnish dissyllabic short *e*-stems shows that, whereas most of them can be divided into two slightly different declensional categories according to definite rules, some are not classifiable and have to be listed. Incidentally it also illustrates one type of problem where educated informants are better than texts or naïve informants, and where a single informant, or even two, would be altogether inadequate.

[13] And I did not know about *kypsi* in time to include it in my inquiries. Gustaf Renvall, Finsk Språklära 62 (Åbo, 1840), gives *kystä* as the partitive.

[14] Most of this was done in 1938, but some was done more recently, at the same time as the investigation of the *se*-stems in clusters.

[15] The *m* of the vowel stem is represented by *n* in the consonant stem.

PROTO-ALGONQUIAN CONSONANT CLUSTERS IN DELAWARE

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[While most of the Algonquian languages east of the Plains show one reflex for each consonant or consonant cluster in the parent language, Delaware shows multiple reflexes in some instances but is very conservative in others. The reflexes are given and stages of development are postulated in conclusion.]

1. Proto-Algonquian *h* and *n* precede *p*, *t*, *c*, *k*, *s*, *š*, *θ*, *l*, while *ʔ* precedes all these except *p* and *k*; *c* and *x* precede only *p* and *k*, while *š* precedes not only *p* and *k* but also *t*; and *ç* is prior member to *k* alone.

As second members in clusters, *t*, *l*, *θ* behave morphophonemically like the corresponding single consonants. So also in F C M O[1] and D, *t* reflects the old alternation to *c* before high front vowels; however, in D *l* (reflex of PA *l* and *θ*) has lost the old habit of alternation with *š* both as a single consonant and as the second member of a cluster (see 5 and 6.4 below).

2. The PA sequence *h*-stop remains in F C M and appears as geminate stop in O. But more than one reflex is found in D.

2.1. Most unusual is the preservation of the prior *h* with loss of the following stop. Thus, the D reflex of *hk* in PA *noohkoma* is *h*: *núuhum* 'my grandmother' (see also 6.3 below).

2.2. PA *hk* also yields D *xk*. PA *wehkweekani* 'his neck', Kickapoo (F dialect) *ohkweekani*; cp. D post-stem form *-xkwee-* in *nkəppiixkwéena* 'I choked him'.

2.3. PA *hk* also remains in D or appears in the interrupted cluster *-hVk-* (metathesis in which a vowel appears between the prior and the second member of the old cluster). PA *tahk-* 'cool'; cp. F *tahkyaawi* 'it is cool', C *tahkikamiw* 'it is cold liquid', O *takkaci* 'he is cold', D *tahkóccu*. PA *-ehk-* 'by foot', D *-hik-*; cp. D *nniiskhíkamən* 'I dirty it by foot', *nnakhíkamən* 'I stop it by foot' but *nnakkənə́mən* 'I stop it by hand'.

2.4. Likewise, PA *ht* appears in D in the interrupted cluster *-hVt-*. PA *nehtaawakaayi* 'my ear'; cp. C *mihtaawakai* 'somebody's ear', M *ohtaawakan* 'his ears', O *nittoowakan* 'my ears', D *nhitaóokka*.

2.5. PA *ht* also appears in D as *st* and in an interrupted cluster *-sVtt-*. PA *nenohtaweewa* 'he understands the other's speech'; cp. D *wənənóostamən* 'he understands it', and PA *-eht-aw-* 'to hear animate object' in D *nkəlsə́ttao* 'I listen to him', but *kələ́staw* 'listen to him'.

2.6. PA *hp* yields D *p*. PA *paahpiwa* 'he laughs' but D *páapu* 'he plays'

[1] Leonard Bloomfield, On the Sound-System of Central Algonquian, LANG. 1.130–56 (1925). Reconstructions made by Bloomfield are cited without the supporting forms. Others cited with supporting forms are largely from the scattered papers of Truman Michelson.

Language names are abbreviated: PA for Proto-Algonquian, F for Fox, C for Cree, M for Menomini, O for Ojibwa, D for Delaware. The affricate is written *c* throughout, since *č* is never distinguished from *c* in any one language.

Indebtedness is gratefully acknowledged to the Linguistic Institute for providing Delaware and Ojibwa informants (1938–1940).

and *mpáapi* 'I play'. PA *wiihpeemaki* 'I sleep with him', F *wiihpeemaki*, O *wiippeemak*; cp. C *wiihpeemeew* 'he sleeps with him', D *nəwiipéema* 'I sleep with him' and *wiipéntuwak* 'they sleep together'. The C form may be an O borrowing, for C **wiispeemeew* would be expected.[2] The D form is not entirely decisive for the reconstruction proposed (see 7.4 below).

3. The PA sequences *hs* and *hš* appear as *hs* in M, as geminates in O, and are not distinguished from the single sibilants in F C. But PA *hθ* and *hl* fall together as *hn* in M, as *ss* in O, as *s* in F, and are distinguished only by C *ht* and *hy* (or *y*) respectively. In D, on the other hand, PA *hš*, *hθ*, *hl* fall together as *x* while PA *hs* is distinguished in D as *s* (see also 6.2 below).

3.1. PA *hs*, D *s*, with added mora of *i* vowel before *s*. PA *nemihsa* 'my elder sister', D *nəmíis*, C *nimis*; cp. M *nemeehsak* 'my elder sisters', and F *nemiseeha*, O *nemisseen* ʔ 'my elder sister' (with diminutive suffixes). PA *nekwiʔsa* 'my son', O *ninkwiss*, D *nkwíis*.

3.2. PA *hš*, D *x*, with added *i* vowel before *x*. PA *šenkihšinwa* 'he lies down', D *šenkíixin*. But without added vocalic mora, PA *nemehšoomehsa* 'my grandfather', D *nəmoxúuməs*, O *nimiššoomiss*, M *nemɛɛhsoh*, F *nemešoomesa*, C *nimosom*.

3.3. PA *hθ*, D *x*. PA *-hθenwi* 'it lies extended'; cp. D *konítixan* 'it lies lengthwise'. PA *noohθa* 'my father', D *núux*.

3.4. PA *hl*, D *x*. PA *leehleewa* 'he breathes', D *léexeew*.

4. The PA sequence *n*-stop undergoes loss of the nasal consonant in F, appears as *h*-stop in C M, but remains *n*-stop in D O.

4.1. PA *n*-stop remains in D after short (single) vowel, but the resulting D syllable has a fixed value of two morae. PA *wetempi* 'his brain', C *otihpi*, Kickapoo (F dialect) *otepi*, D *tə́mp* 'brain' and *wtə́mpəm* 'his brain'. PA *wekwantaakani* 'his throat', M *okoohtakan*; cp. C *mikohtaakani* 'somebody's throat', D *nkwəntáakkanink* 'in my throat'. PA *meθencyi* 'somebody's hand', C *micihci*; cp. O *nininc* 'my hand', and D post-stem form *-lənca* in *wəleelaaookwələ́nca* 'his middle finger'. PA *akaamenki* 'across the river', D *káamink*.

4.2. PA *n*-stop remains in D with preceding long (doubled) vowel reduced, but the resulting D syllable has a fixed value of two morae as above (4.1). PA *piint-* 'inside'; cp. D *pənthíikkanaakw* 'ramrod' and *pəncíiyok* 'they go in'. PA *aθaankwa* 'star', D *alánkw*.

5. PA *nl* appears in D as an interrupted cluster *-h*V*l-*. PA *noonleewa* 'she suckles him'; cp. D *nnúhula* 'I suckle him', and *kənúhuli* 'I am nursing you' (see 1 above).

D reflexes of PA sequences in *n*-sibilant are difficult to find. But D shows some new clusters in *n*-sibilant in which postvocalic *n* leaves its trace in nasalizing the preceding vowel, and word-initial *n* is actualized as a consonant: *alúuns* 'arrow', *alúunsa* 'arrows' (cp. O *anwi* 'bullet', *anwiin* 'bullets'); *nšiišíippuwe* 'I whisper'.

6. PA clusters with ʔ as prior member generally remain in M. But *ʔθ* and *ʔl* fall together in M as *ʔn*; these are distinguished in C as *st* and *hy* (or *h*) respectively, and are partly distinguished in D (see 6.4 and 6.5 below). Besides remaining in M, the sequence ʔ-stop is reflected as preaspirate stop in F, gemi-

[2] Because **wiit-* precedes *-peemeew* without connective **i*; Bloomfield, LANG. 1.150.

nate stop in O, *s*-stop in C, and as an interrupted cluster, *-h*V-stop-, in D. The clusters *ʔs, ʔš, ʔθ, ʔl* fall together as single sibilants in F (and C in part) and as geminate sibilants in O, but show various reflexes in D.

6.1. PA *ʔt* yields a D interrupted cluster, *-h*V*t-*, or *-h*V*tt-*. PA *aʔteewi* 'it sets',[3] C *asteew*, F *ahteewi*, D *háttee*. PA *piiʔteewi* 'foam, froth', C *piisteew*, M *peeʔtew*; cp. D *mpíittay* 'foamy liquid' (with haplologic loss of *-phi-* from pre-Delaware **mpiphíittay*; cp. D *mpí* 'water' and post-stem form *-npi* beside *-ppi*). PA *neʔtami* 'first', O *nittam*, Cheyenne *nuʔtúmmi*; cp. D *hítami* (with loss of unvoiced initial *n* from pre-Delaware **nhítami*). PA *meʔtekwa* and *meʔtekooki* 'tree' and 'trees', D *híttukw* and *hítkuuk* (with loss of initial unvoiced *m* from pre-Delaware; cp. Munsee [a D dialect]: *míhtək* and *míhtəkwak*).

6.2. PA *ʔs* yields both D *s* and *hs*. Thus, PA *aʔsenya* 'stone', D *ahsə́n*; PA *nameeʔsa* 'fish', D *namées*; cp. also D *kənameesə́ména* 'our fish'.

6.3. PA *ʔš* yields D *x*, and possibly also *h* (the prior member of the old cluster remaining in the D form, the second member of the cluster lost [see also 2.1 above]). PA *nekyaʔšiwa* 'my mother', O *ninkašši*; cp. D *nkáhees* 'my mother'; with diminutive, *nkahéettət* 'my aunt'. But PA *neθeʔšiwaya* 'my testicle', C *nitisiway*, M *ninee*ʔ*siway*, D *llə́xu* [with *n* before *l* assimilated to *l*]. And PA *meʔši-* 'big'; cp. D *maximanóttu* beside *maxánTu* 'big spirit'.

6.4. PA *ʔθ* generally yields D *x*. PA *neʔθwi* 'three', O *nisswi*, C *nisto*; cp. D *naxá*. PA *neʔθemya* 'my daughter-in-law', C *nistim*, F *nesemya*, D *naxə́m*; cp. also D *kxə́m* 'your daughter-in-law'. PA *wiiʔθeniwa* 'he eats'; cp. D *nəwíixaniin* 'I cook it'. PA post-stem form *-aʔθemw-* 'dog'; cp. O *makkateessim* 'black dog', C *waapastim* 'white dog', D *ahtúxom* 'greyhound' and *mpíxom* 'water spaniel'.

But PA *ʔθ* in *neʔθeewa* 'he kills him' yields *-h*V*l-* in D *nníhila* 'I kill him'. And while PA *ʔθ* alternates with *ʔš* before *i* in *neʔši* 'kill thou him', D *-h*V*l-* remains in *kəníhili* 'I kill you' (see 1 above).

6.5. PA *ʔl* also appears in D as *-h*V*l-*. PA *pemiʔleewa* 'he flies along', D *pəmíhileew*.

7. C *sp, sk* point to PA *xp, xk*, while the reflexes of these clusters and of PA *hp, hk* are the same in F M O (and D in part). It is worth noting that Natick, a Massachusetts language, shows both *hk* and *sk* as reflexes of PA *xk* (see 13 below).

7.1. PA *xk* yields D *-h*V*k-*. PA *nexkaatali* 'my legs', F *nehkaatani*, C *niskaata*; cp. Natick *wuhkont* 'his leg', O *nikkaat* 'my leg', D *nhíkaat*. PA *maxkesini* 'moccasin'; cp. D post-stem forms in *lənháksən* 'common footgear, moccasin' and *šiišiipháksən* 'rubber shoe'.

7.2. PA *xk* also remains in D. PA *oxkani* 'his bone', Natick *muskon*, C *oskan*, F *ohkan*; cp. D *xkán* 'bone' and *ooxkanə́ma* 'his bones'. PA *oxkwani* 'his liver', Natick *wusqun*, C *oskon*, F *ohkoni*; cp. O *nikkwan* 'my liver', D *xkwə́n* 'liver' and *uuxkwə́nəm* 'his liver'. PA post-stem form *-nexkee-* 'arm'; cp. D *kaliinxkéepi* 'arm band'. PA *maxkwa* 'bear', D *máxkw*. PA *naxkw-* 'correspond, answer'; cp. D *nnaxkúuma* 'I answer him'.

[3] Rather, 'it is in place'; the critical form is M *aʔtɛw*. Also in 6.1 the critical form for PA *neʔtami* 'first' is C *nistam*; M *nɛɛʔtam* shows initial change. For these and other additions and corrections I am indebted to Bloomfield.

7.3. In some instances PA *xk* yields D *-hVkk-* and as a variant of the same form, single *k* without the interrupted *h*. Thus, PA *axkyi* 'earth, land', D *hákki*; cp. D *ntáaki* 'my land'. Likewise, D *xk* often occurs beside a doublet having *k* instead of *xk*. PA *myeexkanaawi* 'trail, road', C *meeskanaaw*, O *miikkan*; cp. D *təmáakkan* 'road' and D post-stem forms in *ləniixkanáao* 'common trail', *laamiixkanáay* 'inside of the road'. PA *amexkwa* 'beaver'; cp. D *təmáakw* 'beaver' and *kwənə́mxkw* 'otter' ('long beaver'). PA *exkweewa* 'woman'; cp. D *xkweew* 'woman' and *lənáakwe* 'Delaware woman'. A few forms show D *k* without a corresponding doublet: PA *pooxkonamwa* 'he breaks it with his hand'; cp. D *mpookona* 'I break him by hand'.

7.4. PA *xp* yields both the interrupted cluster *-hVp-* and *p*, the latter usually after the personal prefix. Thus, PA *oxpwaakana* 'pipe'; cp. D *hupóokkan* 'pipe' and *nuupóokkan* 'my pipe'. And PA *oxpenya* 'potato', O *oppin*; cp. D *hópəniis* 'potato' and *noopəníisəmak* 'my potatoes'.

8. PA *cp* remains in M, and appears as *sp* in C, as *pp* in O, but is unknown in D (see 11 below).

9. PA *ck* remains in M, and appears as *šk* in O, as *sk* in C, as *hk* in F, as *-hVk-* in D. Thus, PA *keckyeewa* 'old person'; cp. *D khíkayak* 'old folks'.

10. PA *çk* appears as *šk* in F, as *sk* in O, and as *hk* in M C, but has three shapes in D, namely *xk*, *-hVk-*, and *k*. Thus, PA *meçkweewi* 'it is red', D *máxkeew*. PA *meçkwi* 'blood', D *mhúkw*; cp. also D *nəmúukəm* 'my blood', *maxkiimúukəmeew* 'he has red blood', *mhukwtúuneew* 'he has a bloody mouth'.

11. The PA clusters of sibilant-stop generally remain in D and the other languages, except that the F reflex of PA *šp* is *hp*. PA *ešp-* 'high'; cp. D *aspkaatéexiin* 'he lies flexed' ('he lies with legs high'), and *aspini* 'raise it'. PA *wešk-* 'raw, fresh'; cp. D *wə́skənk mpi* 'fresh water'.

12. See especially 2, 6, 7, and 10 above for multiple reflexes of PA clusters in D. These may in part be accounted for on the basis of confusion with reflexes from single PA phonemes, some of which alternate in sets of two or even three D phonemes.

Of PA single consonants, *ʔ* remains in M O but appears as *h* in F C D. Thus, PA *wetee?i* 'his heart', O *otee?*, F *oteehi*, D *wtéeha*.

Given D *l* and F M O *n*, then C *y* points to original *l*, C *t* to original *θ*, C *c* to original *θš* (if C *c* replaces *t* then PA *θš* is unnecessary).

The other PA consonants (*p, t, c, k, s, š, h, n, m*) remain in F O, and also in M C (but with coincidence of *s, š*), and in D, but here only when the consonant is in word-initial or in word-final, or is a member of a new cluster. Between vowels the stops of this group (*p, t, c, k*) appear in D as geminate stops or as preaspirate stops: PA *-api* 'sit'; cp. O *nimatapi* 'he sits down', D *ləmátahpi*. PA *manetoowa* 'spirit', D *manə́ttu*. PA *neniicyaana* 'my child', D *nníiccaan*. PA *welaakani* 'dish, bowl'; cp. D *lóokkeens*.

Some geminate stops alternate in morphophonemic sets with preaspirate stops: PA *miiθakayi* 'somebody's penis', F *miinakayi*, C *wiitakay*; cp. D *alákkay* 'penis' and *wíilahkay* 'his penis'. This type of alternation is associated with shift in stress.

The remaining PA consonants (*s, š, h, n, m*) do not alternate in D under the

influence either of word position or of stress. The origin of geminate *m*, *n*, *l* in D is vocalic syncope; *s*, *š*, *x* never appear as geminates, but instances of *hs*, *hš*, *hh* are known.

An intrusive D *h* frequently appears in syllables[4] having a fixed value of two morae: *kənihiniišantpáhamo* 'you fellows have two heads each'. This intrusive *h* may be confused with the *h* in interrupted clusters. Thus a reflex of a consonant cluster may come to be treated as a member of one of the single consonant sets and therefore may be subject to alternations with other single consonants.

13. Delaware shares with Ojibwa and the Miami-Illinois dialects the preservation of the *n*-stop clusters. This points to a primary group of Algonquian languages. Secondly, Delaware shares with some Miami-Illinois dialects and with Shawnee and other languages the coincidence of *θ* and *l* as *l*. After this second stage, Delaware did not go with Ojibwa when *l* further coincided with *n* phonemically (never morphophonemically).

Delaware separated from Ojibwa between the first and third stages of Great Lakes developments. At this time, instead of following the developments of the Great Lakes languages, Delaware experienced innovations which also influenced Penobscot and possibly other Atlantic coast languages, such as the loss of old habits of alternation (see 1 above), multiple reflexes from certain Proto-Algonquian phonemes, and phonemic stress (cp. D *káwi* 'you are sleeping' : *kawí* 'sleep').[5]

[4] Especially in initial syllable reduplication, as *nihiniiš-* from *niiš* 'two'; and in theme final syllables before person pluralizers, as *-mo* in the example above; cp. *kəniišántpa* 'you have two heads'.

[5] At the 1939 Annual Meeting of the American Anthropological Association, Bloomfield accounted for the developments of Shawnee and Potawatomi as a wave effect.

MISCELLANEA

IDEOGRAMS IN ENGLISH WRITING

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It has long been a familiar view among students of language that writing is not and cannot be anything other than a record of speech. It is recognized that the particular speech in question may never have been audibly uttered. But marks on paper, in order to be writing, must according to this view correspond at least to potential speech-sounds existing in the mind of the writer (if he has a mind) or represented by observed or assumed movements of the writer's vocal organs or other portions of his anatomy (if he has no mind), and must in either case enable any reader who knows both the system of writing and the dialect to utter the particular series of phonemes intended by the writer.

I do not know how old this view may be. I have the impression that it is too old to have originated in any of those schools of thought which deny the existence, or the accessibility to scientific investigation, of human consciousness, but I am not prepared to document this impression. It seems clear that these schools of thought provide important support for the view at the present time.

This opinion of writing seems to be the only one reflected in Edward Sapir, Language: an Introduction to the Study of Speech (New York, 1921, reprinted 1939; see especially pp. 19–21) or in Leonard Bloomfield, Language (New York, 1933; see especially Chapter 17, Written Records). A recent expression of the same view appears in Bloomfield, Linguistic Aspects of Science (International Encyclopedia of Unified Science 1.4; Chicago, 1939): '*Writing* is a device for recording language by means of visible marks. By "recording" we mean that the beholder, if he knows the language of the writer and the system of writing, can repeat the speech which the writer uttered, audibly or internally, when he set down the marks' (6).

The last-named work, however, contains other statements which seem to me to contradict this view. Thus Bloomfield states (7) that mathematical discourse (described as the 'most characteristic and powerful form' of 'the language[1] of science') 'can be transmitted only by means of a written record.' With reference to certain mathematical procedures he writes (30), 'The result is a system of writing which cannot be paralleled in actual speech.' Again (43), 'The ancient Greeks carried on mathematical demonstrations largely in ordinary language; it was the development, in the early modern period, of arithmetic and algebra, with its box-within-box markings of scope, that divorced scientific calculations not only from ordinary language but, to all practical purposes, from vocal

[1] On page 6 of the same work Bloomfield writes: 'When the non-linguist sets out to talk about language, he very often lapses into discourse about writing. In order to avoid this confusion, we shall here use the term *"language"* only of the conventional use of vocal sound ("spoken" language), distinguishing this from *substitutes*, such as writing or drum signals, and from other actions, such as facial mimicry, which may serve in communication.' In my opinion, much of what Bloomfield calls 'the language of science' is not language as here defined, but ideographic writing.

utterance.' Formal scientific discourse, which Bloomfield specially defines, in general 'can be carried on only in writing, mainly because no vocal equivalents have been devised or practiced for the elaborate markings of scope.'

In short, Bloomfield in his Linguistic Aspects of Science seems to teach both that writing is a device for recording language and that writing can function independently of language. I do not see how these two views can be reconciled. For my own part, I believe that the received view, which restricts the function of writing to the recording and transmission of language, is erroneous; and I hope that a different view, which I consider more accurate, may be of some professional interest to students of historical linguistics.

Writing consists in the conventional use of visible symbols for the recording or transmission of ideas, or of ideas and sounds (as in most poetry and much prose), or of sounds unaccompanied by ideas (as in a phonetic recording of uncomprehended speech, and perhaps in some nonsense writing). The symbols used to record or transmit ideas may be either IDEOGRAPHIC, suggesting the ideas directly, or PHONETIC, suggesting the ideas indirectly through the medium of speech-sounds. Many systems of writing, including Chinese, ancient Egyptian, and English, use both ideographic and phonetic symbols, sometimes combining the two into a single character or group of characters expressing the counterpart of a single spoken word, as in English *2nd.* Ideographic symbols in the writing of one language are, in some instances, derived from phonetic symbols in the writing of another, as *d.* (*denarius*) in English *1d.* = *one penny*, *3d.* = *threepence.* Even within the writing of a single language, an original phonetic distinction between two written forms may disappear, leaving only the secondary ideographic distinction. For instance, in my dialect of English, *aunt* and *ant* are phonetically identical, but the graphic distinction retains its secondary ideographic value in my writing.

The present note is a by-product of a book on the history of the ancient Egyptian language. Because I hope that the book may be of some interest to students of linguistic science, I am trying to express my observations in modern characters exclusively. This attempt places me under a special obligation to state, as fully and as clearly as I can, the relation between the modern characters which I shall print and the ancient ones on which my work is necessarily based. I should be totally unable to discharge this obligation if I had to be guided by Bloomfield's explanation of ideographic signs (Language 285): 'Systems of writing which use a symbol for each word of the spoken utterance, are known by the misleading name of *ideographic* writing. The important thing about writing is precisely this, that the characters represent not features of the practical world ("ideas"), but features of the writers' language; a better name, accordingly, would be *word-writing* or *logographic writing.*' In my opinion, *ideogram* and *word-sign* are not interchangeable terms, either in Egyptian or in English. Each of these two languages exhibits, in its standard system of writing, certain phenomena which in my opinion are ideographic. The ideographic phenomena in Egyptian writing are not identical with those in English writing, nor do they fall into identical categories. But I think the existence of ideographic writing

can be demonstrated, and a useful beginning made toward analysing some of the ways in which it can function, without going outside the domain of English.

Let us consider some of the uses of the character *2* in English writing. Written as in the preceding sentence, of course, it is an equivalent of the set of quasi-phonetic symbols *two* and of the spoken word [ˈtuw].[2] The pair of characters *22* corresponds similarly to *twenty-two* and to [ˈtwentij ˈtuw].

The set of three characters *2nd* corresponds to *second* and to [ˈsekn̩d], but not equally in all linguistic situations. Speakers of standard English, I believe, very rarely if ever write *at 1 2nd before 3* even in situations where they would not hesitate to write *at 1 second before 3*. The ordinal numeral and the noun are phonetically identical, but speakers of standard English write *2nd* rather freely for the one and much less freely, if at all, for the other.[3]

The set of three characters *222* corresponds often enough to the words [ˈtuw ˈhondred ˈtwentij ˈtuw], perhaps less often to [ˈtuw ˈhondred n̩ ˈtwentij ˈtuw]. Where is the word-sign corresponding to the word [ˈhondred]? It is true that speakers of English sometimes read this expression [ˈtuw ˈtwentij ˈtuw] or even [ˈtuw ˈtuw ˈtuw], but in each case I think it will be admitted that the utterance is probably a reflex of the writing, and not vice versa.

The set of five characters *$2.25* corresponds variously to [ˈtuw ˈdɑlɹz n̩ ˈtwentij ˌfajv ˈsents, ˈtuw n̩d e ˈkwɔrtɹ̩, ˈtuw ˈtwentij ˈfajv], and to still other series of English phonemes. The word corresponding to the character *$* is often present and often absent in standard speech; I do not know that the character is ever absent in standard writing except in the second and following lines of a column of accounts. What word or other feature of speech corresponds to the decimal point? Where is the word-sign for [ˈsents]? And what is the linguistic explanation of the order in which the characters are arranged?

I think it will be admitted that all of these uses of the character *2* are related in some way: this factor of relationship may be designated as *x*. What is *x*? The received view of writing, outlined in the opening paragraph, would lead me to look for *x* in some phonetic phenomenon, or in some complex of such phenomena, but I have not been able to find *x* in this way. I have not found anything phonetic which could serve, in my judgment, as a basis for the postulated relationship between the use of *2* in *2nd* on the one hand and any of its uses in *222* or *$2.25* on the other.

Up to the present time, I have been able to find this particular *x* in the world of ideas, and only there: *x* is, for me, the fact that the character *2* in all of its uses expresses related ideas. My purpose in this note is not to argue any psychological doctrine, but merely to show that standard English writing includes signs which directly represent other things than the sounds of language.

[2] The phonetic transcriptions in this article, modeled on the transcriptions in Bloomfield's Language, are supplied by the Editor.

[3] On the other hand, the mark ″, which corresponds to *second* and to [ˈsekn̩d] in some situations, is never used for the numeral.

AUXILIARY VERBS IN RUSSIAN

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1. In Language 16.196 ff. (1940), A. Issatchenko discusses certain Russian verbs which have been described as auxiliaries, and contends that there is no such category in Russian. He points out the necessity of a morphological or syntactic criterion for setting up such a category, and cities Serbian, German, and English examples: in Serbian the auxiliaries are those verbs that never appear initial in a sentence, and are only found as unstressed enclitics after the first stressed word; in German the modal auxiliaries have special past participle forms; in English the modal auxiliaries have no *-s* in the 3d sg. present. He might have gone on to say that in English *be* and *have* are auxiliaries because of their very special forms. The point is clear: we can talk of auxiliaries only if the verbs so labeled are morphologically or syntactically or in both ways different from other verbs. On the basis of this kind of statement, Issatchenko concludes that in Russian *bytĭ* 'be', *močĭ* 'be able', and *xotétĭ* 'wish', are not auxiliaries.

The validity of Issatchenko's criteria of analysis cannot be questioned. But in the light of them he seems not to have examined Russian verbs with sufficient thoroughness. I propose to show that Russian has four auxiliary verbs, in two sub-classes of two each.

2. The verb *bytĭ* 'be' is a perfective verb: its non-past (historically the present) *ä búdu*, etc., has future meaning, 'I shall be'. This non-past, when followed by the infinitive of an imperfective verb, is said to form the analytical future of that verb: *pisátĭ* 'write', *ä búdu pisátĭ* 'I shall write', literally 'I shall be to write, I shall be writing'. Issatchenko holds that this is merely a normal collocation of verb and dependent infinitive, and cites *ä stánu pisátĭ* 'I'll begin to write', literally 'I'll become to write', and *ä sádu pisátĭ* 'I'll sit down to write'. However, while it is possible to say *ä stal pisátĭ*, *ä sel pisátĭ* 'I began to write, I sat down to write', one cannot say *ä byl pisátĭ*, which would mean, we may suppose, something like 'I was to write'. That is, *statĭ* 'become', *sestĭ* 'sit down', *načátĭ* 'begin', and other verbs may be followed by imperfective infinitives not only in their non-past form but also in the past, the imperative, the infinitive, and other forms. It is then clear that *bytĭ* is different, for *bytĭ* plus infinitive does not exist: it is only the non-past of *bytĭ* (*búdu*, *búdešĭ*, etc.) that combines with an infinitive, and the combination is syntactically unique; so, on syntactic grounds, *bytĭ* is an auxiliary.

The special syntactic character of *bytĭ* is evident also in the use of its neuter singular past form *býlo* with pasts of verbs: the collocation *ä dal býlo* means 'I had intended to give'; the construction is possible with all verbs, and there is no reason for calling *býlo* a particle as Issatchenko does, since it is clearly and simply a verb form.

There are further grounds for calling *bytĭ* an auxiliary: there is the form *by*, always enclitic to a past tense of a verb, or to its subject, forming the so-called conditional: *on dal-by* 'he would give'; this form *by* is called a particle by Issatchenko (195); I see no reason for not considering it simply as a special form of the verb *bytĭ* (which it is historically, of course), this verb being different from

all others in having such a form. The verb *bytĭ* has also another unique form, *búde*, which differs from a regular 3d sg. present in having no final *-t*; the constructions it occurs in are of the type *búde okážetsä vozmóžnym* 'if it were to show itself possible' (literally 'if it were [that] it will show itself possible'); the usual translation of *búde* is 'in case', but there is no reason for not considering it a special form of the verb, with the meaning here given, 'if it were, were it'.

The verb *bytĭ* then has two forms not found in other verbs, an impersonal hypothetical *búde*, and an impersonal conditional *by*, and two of its regular forms, the non-past as a whole (six forms) and the neuter singular past, have unique syntactical functions. The verb is thus, by all criteria, an auxiliary.

3. The verb *pustítĭ* 'permit, allow' has a special form *pustĭ*; this is not the imperative singular, which has only the one form *pustí*, though there are other cases of free alternation between forms in final *-í* and forms in final *-ĭ*. The form *pustĭ* is used with following 3d sg. and pl. non-past forms to give the so-called third person imperatives: *pustĭ poi̯dët* 'let him go' (literally 'let he will go', if we may translate *pustĭ* by its historical meaning as an imperative). Here again there is a verb that has a special form, and that form has a special usage; therefore *pustítĭ* is an auxiliary.

4. The verb *močĭ* 'be able' never appears in the infinitive outside of books, though a compound, *pomóčĭ* 'help', is quite regular. The forms that are found are the non-past *ä mogú*, etc., 'I can', and the past *ä mog* 'I could'; the future with *búdu* is never formed. This verb then is defective: it has no infinitive, no future, and, for that matter, no participles or imperatives; its derived perfective with the prefix *s-* (*ä smogú* 'I'll be able') also has only the non-past and the past.

The verb *xotétĭ* 'wish' is common enough in the infinitive; but the future with *búdu* is never formed, and I know of no occurrences of the imperative. Further, the present gerund *xotá* has a special syntactic function, so that it is translated by 'although, even'. This is another defective verb, and also has a syntactically specialized form.

5. Russian is shown, then, to have two full auxiliaries, *bytĭ* and *pustítĭ*, and two defective auxiliaries, *mogú* and *xotétĭ*.

OLD AND MIDDLE IRISH *do·sná*

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Just as the simplex *snaïd* 'swims', which is recorded in Old Irish,[1] would have a conjunct form *·sná*, so the compound *do·sná* 'swims up', when prototonic, should be *·tonna* from *to-ṡnā*, because the medial *s* undergoes lenition and the resultant voiceless *n* is indicated in the script by the gemination of the letter. Although the present indicative 3d sg. *·tonna* is not attested, the subjunctive, the ending of which would be identical with that of the indicative, occurs in the following phrase from Táin Bó Cúailnge:[2] *dia·tonda*[3] *īasc isna haibnib nō isna*

[1] Ml. 93 c l.

[2] Ed. J. Strachan and J. G. O'Keeffe 44. On p. 40 *dia·tonda* is repeated, but the remainder of the clause is somewhat different.

[3] The *nd* of *·tonda* is a Middle Irish spelling for older *nn*.

hindberaib 'if a fish swims up into the rivers or into the estuaries'. So far, deuterotonic *do·sná* has not been noted in the discussions relating to this verb,[4] but in Tenga Bithnua[5] it is, nevertheless, found in the ensuing passage which, on account of its somewhat corrupt nature, has hitherto been only translated in part: *Tipra Shion i tirib Ebra sund, nocon·rodcad ar in da fogbad nach baeth. Do·lin cen forbairt. Do·snai forlan i ndomnach do grés.* If, however, *ar in da fogbad* is emended to *aranda·fogbad* and the *i* of *do·snai* is omitted,[6] the text becomes perfectly intelligible: 'The well of Zion here in the land of the Hebrews, not has it been destined[7] that any fool should find it. It flows without increase. It always wells up fully on Sunday.'

In Imram Brain,[8] which linguistically is as archaic as the prima manus of the Würzburg glosses and was, therefore, probably composed in the 7th century, another instance of *do·sná* may also be contained in the following quatrain:

Fil inis i n-eterchéin
Imma·[9]*taitnet gabra réin,*
Rith find fris' toíbgel tondat,
Cetheóir cossa fos·longat.

This quatrain[10] Kuno Meyer renders:

'There is a distant isle,
Around which sea-horses glisten:
A fair course against the white-swelling surge,
Four feet uphold it.'

But his translation of the third verse is hardly correct. Although *toíbgel tondat* could literally mean 'white-sided wave-swelling', as he suggests,[11] two objections can be advanced against his rendering: In the first place, if *toíbgel* is really an adjectival compound, it should normally follow the noun which it modifies, though exceptions to this rule are found in poetry. In the second place, *tondat*, which Meyer records in his glossary as *tond-att* 'wave-swelling (Germ. wogenschwall)',[12] would in later times, at all events, be metrically impossible, for the voiceless explosive represented by the double *t* in *-att* cannot rhyme with the voiced *t* of *fos·longat*.

Aware of these difficulties, John Strachan offered an entirely different explanation of this verse.[13] He took *tondat* to mean 'little wave' from *tonn* 'wave' to which the diminutive suffix *-nat* had been added. *Fris'*, on the other hand, he regarded as a shortening of *frisind* or *frisin(n)* with the *d* assimilated to the

[4] For references, see H. Lewis and H. Pedersen, A Concise Comparative Celtic Grammar 397.

[5] Ed. W. Stokes, Ériu 2.114, §39.

[6] In Middle Irish, *ai* is often written for final unstressed *a*, as for example in Tenga Bithnua §41, where *marai* would be *mora* in Old Irish, the gen. sg. of *muir* 'sea'.

[7] From *tocid*; cf. Lewis and Pedersen 401, §642.

[8] See K. Meyer and A. Nutt, The Voyage of Bran Son of Febal 1.5.

[9] Read *imme·*, as in H, which is the more archaic form of *imma·*.

[10] Op.cit. 4.

[11] Ibid. 4, n. 5.

[12] Ibid. 96.

[13] In a recent letter Professor Osborn Bergin was kind enough to communicate Strachan's interpretation to me.

preceding *n*, the constituent elements of which are the preposition *fri*, the nasalizing relative particle *-sa*,[14] and the ending *d* of the present indicative 3d sg. of the copula. Hence, he would translate *fris' toíbgel tondat* by 'against which the little wave is white-sided'. Although his interpretation may be correct, it still does not offer a completely satisfactory solution, because *rith find* 'a fair course' is thereby left out of construction, nor does the sense of the passage seem to call for the diminutive *tondat*. That *fris'* is an apocope of *frisind* or *frisin(n)* also requires further proof, especially in such an archaic poem. It cannot be denied that the necessity of saving a syllable sometimes compels the poets to leave out a final unaccented vowel, as, for example, the *a* of the relative particle *-(s)a*,[15] but that they enjoyed the license of omitting verbal terminations as well needs to be substantiated.

None of these objections are perhaps decisive enough to invalidate Strachan's explanation completely, but they can be removed in part by construing *tondat* as the prototonic present indicative 3d pl. of *do·sná*, *·tonna*, corresponding to a deuterotonic *do·snát*. Nor is the prototonic form here out of place, for Professor Osborn Bergin has recently shown[16] that when a verb does not introduce its clause and particularly when it is preceded by its subject or object, then in the older language the prototonic form is frequently employed, especially in early poetry. These conditions are, therefore, fulfilled if *rith find* is regarded as the object of *·tondat* and if for *·tondat* the better reading *·tonnat* in the copy of Imram Brain in MS H. 4. 22 is substituted.[17] The intervening *fris' toíbgel* should likewise be emended to *fris' toíb gel*, where the noun *toíb* is now modified by the adjective *gel* and *fris'* is the apocopated form of *frisa* in order that the verse may be heptasyllabic. Accordingly, *rith find fris' toíb gel ·tonnat* may be rendered: 'They swim a fair course up against its white side'.[18] Here 'they' refers to the sea-horses (*gabra réin*), which is a kenning for the waves, and 'its' alludes to the island (*inis*), which is feminine in Irish so that the initial *t* of *toíb* is not aspirated.

Criticism may perhaps be levelled at this interpretation, because the separation of *toíbgel* into two distinct words destroys the alliteration with *·tonnat*, since *gel*, which is then fully stressed, intervenes between *toíb* and *·tonnat*.[19] But in defense of this emendation it should be recalled that in the oldest syllabic poetry the rules of alliteration are not strictly applied, as may indeed be observed even in Imram Brain, certain quatrains of which contain no trace of alliteration.[20] Later in Dán Díreach, the principles of alliteration are seldom violated,

[14] The *a* of *-sa* develops into an *i* before the verbal ending.

[15] Compare, for instance, the heptasyllabic verse *ni fris·tarddam ar n-áthius* 'something against which we may be able to apply our acuteness', Thes. Pal. 2.293, where *fris·* in prose would be *frisa·*.

[16] Ériu 12.197 f.

[17] ZfCP 18.411.

[18] The shore is obviously meant. Compare *tóeb na indse* 'the (opposite) shore of the island', Irische Texte 1.210, §15.

[19] No alliteration exists in this verse, because *fris'* is an íarmbérla, that is, an unaccented word which cannot alliterate with *find*.

[20] Namely, those numbered 27, 28, 30, 37, and 49; cf. K. Meyer, A Primer of Irish Metrics 10, §21.

but in the earliest metrical compositions no slavish conformity was observed. If fault is likewise found with the absence of nasalization after *toíb*, which (governed as it is by the preposition *fri*) must be acc. sg., it ought not to be forgotten that the transposed *n-* is often not inserted between consonants and that Kuno Meyer also does not record all the variant readings in his edition. The foregoing explanation[21] possesses at least the merit of not leaving *rith find* out of construction and, at the same time, establishes perfect rhyme between *·tonnat* and *fos·longat* in the ensuing verse even according to the strict metrical rules which later prevail in Dán Díreach.

Whether the interpretation of *·tonnat* here tentatively advanced or that proposed by Strachan is the correct one must be left undecided until a critical edition of Imram Brain has been made. Formally, at all events, no exception can be taken to *·tonnat* as the prototonic present indicative 3d pl. of *do·sná, ·tonna*. If, therefore, this explanation is accepted, *·tonnat* would be the third recorded occurrence of the verb, of which hitherto only the present subjunctive 3d sg. *·tonna* has been noted by the commentators. And even if *·tonnat* is left out of consideration as being too dubious an example, there still remains the deuterotonic present indicative 3d sg. *do·snā* in Tenga Bithnua which has so far been overlooked. Hence, parallel to the simplex *snaïd, ·sná* 'swims', there exists the perfectly regular compound *do·sná, ·tonna* 'swims up, wells up',[22] the prototonic form of which, though not actually recorded, may be safely inferred from the present subjunctive 3d sg. *·tonna* in Táin Bó Cúailnge.

[21] It is conceivable that *rith find fris' toíb gel tonnat* should be rendered 'against the white side of which they swim up a fair course'. In that case, the apocopated *a* of *fris'* would represent the possessive relative pronoun. But the usual practice is to attach the relative particle *-(s)a* to the preposition which is then separated by the verb from the noun that it governs. In this instance, one would, therefore, expect *fris·tonnat toíb gel*. So far, at all events, no exceptions to this syntactical arrangement have been observed, not even in poetry; cf. E. Gwynn, The Metrical Dindshenchas 4.398, n. 6.

[22] Since *snám* 'the act of swimming' is the verbal noun of *snaïd*, the corresponding abstract of *do·sná* should be *tonnam* from *to-ṡnām*. This apparently has survived in Modern Irish in the spelling *tonnamh*, for which see P. S. Dinneen, An Irish-English Dictionary 1232 s.v. *tonnadh*.

REVIEWS

THE ENGLISH HUNDRED-NAMES: THE SOUTH-WESTERN COUNTIES. By O. S. ANDERSON. (Lunds Universitets Årsskrift, N.F. Avd. 1, 35.5.) Pp. xx + 236. Lund: C. W. K. Gleerup, 1939.

THE ENGLISH HUNDRED-NAMES: THE SOUTH-EASTERN COUNTIES. By O. S. ANDERSON. (Lunds Universitets Årsskrift, N.F. Avd. 1, 37.1.) Pp. xvi + 242. Lund: C. W. K. Gleerup, 1939.

These two volumes complete a trilogy that was begun in 1934 with the publication of Anderson's dissertation, The English Hundred-names. As a result of the competent guidance of his distinguished teacher, Eilert Ekwall, and no little diligence and learning of his own, Anderson has made a solid contribution to our knowledge of English local nomenclature.

The first of the three volumes contains an introduction, an extensive bibliography, a list of abbreviations (which, with the bibliography, is merely supplemented in the two later volumes), and a survey of the hundred-names of the Midland and Northern counties. In the two volumes under review the sixteen counties of Southern England are dealt with in much the same fashion that marked the treatment of the material in the earlier work. Each county is taken up separately, and after commenting succinctly on its hundredal divisions, the changes that have come about in them since the Domesday Book, the principles of arrangement that govern the hundreds, and other kindred matters, Anderson proceeds to an examination of the individual hundreds. For each he gives a brief description of its extent, a list of references to it from various records, its etymology, and miscellaneous information as to the survival of the hundred-name, its connection with the topography of the country, and the like. The last volume contains a thorough survey of the elements found in the hundred-names of all England arranged according to meaning in eleven groups, a list of elements arranged according to linguistic origin, a list of personal-names found in the hundred-names, and a suggestive chapter on the origin of the hundred. There are also an index and a table of contents that serve for the entire work.

Anderson seems to have taken account of all available approaches to his subject—books and articles, maps and gazetteers, even visits to the sites of many hundredal meeting-places. Naturally he has made considerable use of the publications of the English Place-Name Society, but it is to his credit that he is an independent scholar and not a slavish follower of other workers in his field. For example, he disagrees at times with the etymologies of others (e.g. Dumpford, Sx.), frequently points out alternative etymologies (e.g. Cornilo, K.), and has no hesitancy in admitting the impossibility of settling some etymologies (e.g. Hefedele, Ha.). Now and then his observations may appear inadequate (e.g. Celberge, Do.), but generally they are remarkably full (e.g. Frustfield, W.) and more satisfactory than those of the editors of the English place-name volumes because of the clear distinction made between what is certain and what is doubtful. And as a result of his travels in England he has occasionally arrived at conclusions somewhat different from those held by earlier scholars; see, for

example, his remarks on Whitestone, So., and Dunworth, W. In brief, he gives evidence of being a first-rate phonologist and etymologist.

These volumes provide material for students in many fields. The phonologist may learn a good bit about such matters as assimilation and dissimilation and about the Norman influence on Middle English. The lexicographer may discover in these names various words that were obviously in use earlier than the NED would suggest. The student of personal names may have his relatively scant knowledge of Old English personal nomenclature impressed upon him by the numerous names found here that are not recorded independently. It is of interest to note, for instance, that the personal names occurring in the names of the hundreds are more often uncompounded than compound and that the women's names (which further show the generally underestimated position of women in Old English times) are with two exceptions dithematic. And there is here abundant evidence of the survival of Germanic paganism; witness Wodneslaw, Bd., and the names containing the elements *āc*, *æsc*, and *þorn*—the sacred trees of the North.

The chapter on the origin of the hundred, although it might have been fuller, will have to be seriously considered by future historians of English institutions. The generally accepted view that the organization of the hundred was late surely needs modification in the light of the many hundred-names that go back to early Old English times, and Anderson is thoroughly justified in suggesting that in many cases 'the hundreds correspond—more or less exactly—with districts or rather local divisions, each with its moot, in existence before the 7th century, or at least at its beginning.'

There are some minor points that require comment. 2.8: The first element of *Deerhurst* does not necessarily mean 'deer', although Anderson is probably right in so taking it. 2.10: Four 6th-century members of the Bernician royal family had names beginning with the element *þeod*. 2.60: *Kenulph* is hardly the proper spelling of the name of the king—not of the West Saxons, but of the Mercians. 2.111–2: The etymologies of *Uggescombe* and *Tollerford*, though clear, are not completely given; so with *Gillingham* (2.137). 2.130: It is probably incorrect to assume that the meaning of personal names was given much thought in Old English times. 2.179–80: Reference might have been made to the remarks in the Old English Chronicle for 501 concerning Portsmouth. 3.14: The personal-name *Mul* is best derived from OE *mūl* 'mule', which is paralleled by such names as *Hengest* on the one hand and *Healfdene* on the other. 3.56: The use of the term 'byname' seems inappropriate; *Hund* is probably representative of an old type of English personal name. 3.111–2: A reference to Helm of Widsith 29 would have been in order. 3.163: The term 'late OE' ought to be replaced by 'early ME'. 3.216: While it is true that uncompounded names seem more frequent in the early Old English period, compound names were by no means rare, as a glance at the genealogy of any of the royal families will show.

The triviality of these corrections, though, suggests that little remains to be done in the field of hundred-name research. It is true, of course, that all the names have not yet received final etymologies, and further contributions in that direction may be hoped for. A fuller investigation of the four Northern counties

and Cornwall, which are scantily dealt with here because of the somewhat different problems that they present, is likewise to be desired. But these volumes as they stand are marked by sound work that testifies to the continued vigor of English studies in Sweden.

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PSYCHOLOGY OF ENGLISH. By MARGARET M. BRYANT and JANET RANKIN AIKEN. Pp. [x] + 230. New York: Columbia University Press, 1940.

The thesis of this book is that 'English grammar is not logical' but 'predominantly psychological. . . . It is a product of certain forces working in individuals and in groups to bring about certain equipoises or equilibria which we dignify by the name of rules or laws' (14). Written with lucidity and a refreshing liveliness, this volume is addressed to the general reader. It is leveled against the grammar of rules and proscriptions which, in spite of its pre-19th-century slant, still remains as the stubborn foundation of present-day language teaching in practically all high schools and in most colleges. In place of this puristic point of view, the book seeks to provide a naturalistic approach to grammar.

The first few chapters contain a non-technical discussion of grammatical problems in general and of English grammar in particular. The concept of linguistic change receives a great deal of emphasis, as it should in a book of this type. On the whole, the description and historical treatment of strictly linguistic material is thoroughly sound, and for a non-specialist audience it is presented with a skill and clarity that is all too rare in linguistic writings. Perhaps the authors, in an attempt to offer simple generalizations, occasionally overstate their case: 'In any language the structure of grammar tends to grow simpler with the passage of time' (29); 'The typical word in Gothic is probably trisyllabic, in Anglo-Saxon dissyllabic, and in Modern English monosyllabic' (161). And there is a curious insistence throughout the volume upon treating the word as 'the smallest indivisible idea unit within the sentence or the non-sentence' (21). This is neither good linguistics nor, it seems to me, good pedagogy. The lexemic units of English—its 'idea' units—are contained not only in words but in sub-word elements (as in *nonsentence* or *overstate*) and in word collocations (as *get up* or *man of war*). The fact that the English word and lexeme do not stand in any simple one-to-one relation should have provided the authors with a means of pointing out the fluidity of English structure and of counteracting a popular misconception regarding the inflexible relations between grammatical form and function.

A book of this sort, however, is valuable for the linguistic orientation it gives the reader, not for its precision of detail nor the comprehensiveness of its treatment. And it manages successfully to convey a point of view about linguistic structure and processes that would be generally accepted by specialists in the field.

This much cannot be said for the psychological orientation it provides. The inadequacy of its psychological approach is a fatal weakness, for the primary aim of the book is to interpret the psychic traits which are supposed to motivate

the changing forms and constructions of English. Thus, according to the authors, the trend toward simplicity of form in English 'is evidence of the essentially modest character of the human nature of those who speak it' (159); the variety of forms for making polite requests in English shows 'clearly the temper of the average person, which is not dictatorial or overbearing, but friendly and democratic' (153). A number of other traits are revealed in English grammar—impatience, arrogance, confusion and profundity, sloth and slovenliness, indecisiveness, etc.

Although the authors warn against the dangers of analogizing from the 'group mind' to the 'individual mind', their volume is based upon the notion that the collectively produced forms of a language indicate the psychic traits which motivate its individual speakers. Apparently they feel that merely by examining a set of grammatical forms it is possible to make direct inferences about the personal characteristics of the people who use those forms.

Inferential speculation about humanity and human nature, about the primitive mind, about the distinctive character of a people who speak this or that language is of course nothing new in the history of linguistics. This kind of haphazard psychologizing belongs, ironically enough, to the same era as the puristic grammar that the authors are so eager to destroy, and it has by no means disappeared in the works of modern linguists. Not only is this speculative psychology untouched by present-day thinking in the field of cultural and individual behavior; its point of view is utterly incompatible with the approach used in modern linguistics. In this book, the authors show themselves to have a sober regard for evidence and for an inductive method of dealing with evidence as long as they are handling linguistic material. Being competent linguists, they would probably take exception to any psychologist who ventured to infer, from a set of psychic traits, what kind of grammatical forms were used by the possessors of these traits. Yet in the field of psychology they indulge in just this sort of ad hoc generalization and inference.

As linguists they are also keenly aware of the necessity of defining a grammatical phenomenon within a grammatical frame of reference. A description of the pronoun *him*, for example, cannot be made by examining the pronoun alone. The very orthography for indicating this word must be relevant to the other words in the language; the case membership of *him*, its syntax, its grammatical function must be defined in relation to other words having correlative cases, syntactic features, and functions; in short, *him* is what it is by virtue of its place in a structured system. But no such frame of reference is supplied for psychological phenomena. A psychic trait seems to be regarded as an isolated entity, existing by itself and operating without relation to other psychological processes. It cannot, of course, be defined within the framework of linguistic terms. In these terms, as Harris pointed out in a recent review (LANG. 16.225–8), psychological or sociological interpretations are pointless and irrelevant.

This is not to say, however, that the fields of linguistics and psychology are mutually exclusive. As a matter of fact, the descriptive techniques developed in modern linguistics are powerful tools for the investigation of language psychology, but such an investigation, though it may be focused upon verbal forms,

cannot limit itself to these forms. Psychology possesses its own frame of reference, and language conceived in terms of cultural or individual behavior has a place in this frame. In a given culture or subculture the verbal forms of polite request, for example, belong with other non-verbal expressions of politeness, such as tipping the hat or bowing; and these practices along with other conventions of etiquette are part of the total economy which comprises the culture, just as the functionally related forms of a grammatical category are part of a linguistic system. Any cultural practice is to be interpreted in terms of its specific history and its place within a functioning system of cultural behavior. Blanket motives cannot be assigned to such practices: the presence of polite requests in a language does not indicate that the speakers are 'friendly and democratic' any more than their convention of bowing is evidence that they feel humility and inferiority.

Human motives, as far as the psychologist has been able to find, belong in the framework of an individual's life-cycle and behavior. It is possible to determine the motives behind A's use of polite requests in addressing B. But these motives are determined by a consideration of the particular circumstances under which the polite request was made, the previous experience of A, his development in terms of cultural adjustment, his selective use of etiquette practices, his attitudes about politeness, his relations to B, and other evidence of a like nature. Reference to a single motive would seldom suffice to cover any one item of behavior: A's motives in making polite requests are apt to be manifold and complex, and the probability is practically zero that his set of motives will be identical with those of C in performing the same behavioral act. In other words, a culturally given form of behavior cannot be interpreted in terms of a simple motive uniform for all individuals.

The attempt to link psychology with linguistics is one with which many linguists, and I among them, are heartily in sympathy. I have very grave doubts, I must confess, that this linkage can be furthered by searching for a distinctive psychology of English-speaking people, as the authors of the present work set out to do; but this problem is open to demonstration. Such a demonstration, however, must be based upon an approach that does as much justice to psychology as to linguistics. In conveying modern linguistic concepts to the general reader, this book accomplishes a difficult task with skill, but it is apt to leave him with the notion that psychology—or, at any rate, the linguist's psychology—is still a matter of making unsupported generalizations about human beings.

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SEMANTIC FREQUENCY LIST FOR ENGLISH, FRENCH, GERMAN, AND SPANISH: A CORRELATION OF THE FIRST SIX THOUSAND WORDS IN FOUR SINGLE-LANGUAGE FREQUENCY LISTS. By HELEN S. EATON. (Issued by the Committee on Modern Languages of the American Council on Education.) Pp. xxii + 441. Chicago: University of Chicago Press, 1940.

This remarkable book, the first of its kind, attempts to list six and a half thousand common concepts arranged in frequency classes according to the commonness of the words which express them in English, French, German, and Spanish. A typical entry from the first section: [English:] *fast*[1a], *quick*[1a], *rapid*[1b], (*swift*[2a]), (*fleet*[2b]), (*hasty*[4b]), (*speedy*[4b]), (*brisk*[5a]), (*hastily*[5a]) / [French:] *vite*[1a], *vif*[1b], *rapide*[1b], (*rapidement*[2a]), (*vivement*[2b]), (*précipitamment*[5b]) / [German:] *schnell*[1a], *rasch*[1b], (*eilig*[3b]), (*geschwind*[3b]), (*schleunig*[3b]) / [Spanish:] *pronto*[1a], *vivo*[1a], *rápido*[1b], (*apresurado*[2b]), (*presto*[2b]), (*precipitado*[3a]), (*veloz*[3a]), (*vertiginoso*[6a]). This entry is in the first section (662 concepts) because in each language it is expressed by at least one word of the first thousand. The superscript '1a' is to be read 'first half of the first thousand'; '3b' means 'second half of the third thousand'—that is, more than 2500 German words, but not as many as 3000, have been found to be commoner than *eilig*.[1] Only the smallest number found in a group of words is used; the words from higher thousands are put in parentheses to show that their numbers were not taken into account in placing the entry. No synonym is listed from outside the first six thousand words of the language unless none can be found among them, as in: *strategic*[13] / *stratégique* / *strategisch*[3a] / *estratégico*, where the absence of any number shows that the word lies outside the source list for that language. The English source list goes to 20,000 words, and extra words are arbitrarily given the number 21; in the other languages the lists go to 6,000 and extra words are numbered 8. Because the English and German lists are supposed to be more reliable, their numbers are given quadruple weight. Thus for the second example we have: $(4 \times 13 + 8 + 4 \times 3 + 8)/10 = 8$. When synonyms had been assigned to all the first six thousand words of each of the four languages, a total of 6473 'concepts' had been set up, with ranks from 1 to 13 by tenths—a scale of 120 steps. Eleven items have rank 8, like this one, and 6148 items have lesser ranks.

It is of course essentially impossible for a book made in this way out of such materials to accomplish what it sets out to do. When we read: [E:] *match*[2a] (sport) / [F:] *match*[6a] / [G:] *Kampf*[1a] / [S:] *encuentro*[2a], (*desafío*[3a]), we see at once that the calculated rank of 2 is nonsensical: obviously French alone has a word whose frequency belongs principally to this meaning, and the only number that means much here is its rank, 6a. Usually not even one of the four languages has such a word. The result is that the precise ranking on a scale of 120 steps is illusory: certainly the average uncertainty amounts to several dozen steps.

Again, the total number of 'concepts' is arbitrary. The first long quoted entry could easily be split up into two or three. I for one would have insisted that *but*[1a] / *mais*[1a] / *aber*[1a], *sondern*[1a] / *mas*[1a], *pero*[1a], *sino*[1a] should be two items, not one. But these decisions can't be made by rule; and since agreement is impossible, there is no sense in speaking of 'errors'.

What is wanted is a different kind of source list, a frequency count for each language with a separate report concerning each discriminable meaning of each word. Such a count is actually in progress in English. Five million words of

[1] These figures are from well-known sources: Thorndike for English, Vander Beke for French, Kaeding for German, Buchanan for Spanish.

English text are being analysed according to the meanings listed in the large Oxford dictionary.[2] If this is ever done for three or more languages, a semantic frequency list can perhaps really be made. The meanings, mostly too finely divided in such large dictionaries, will combine into clusters with a great deal of correspondence among the languages—provided, of course, that the languages belong to the same culture-area, as these four do. (Adding Russian would upset everything, not because it is Slavic—for Czech will mostly fit in quite neatly—but because its concepts were defined in another scholastic language and according to another philosophical system, those of the Greek Orthodox church, and because even the proverbs and fairy-stories of that region are strange to us.) Whether it could be done objectively, by rule, with reproducible results, is another question.

Meanwhile we have the present book. It is a glorious failure, and we owe the compiler and the collaborators our unreserved thanks for what they have done. It is not the book that it tries to be; but that book could not be started until after this one was made. We must even forgive the compiler's over-confidence in its ultimate validity, for without that the book would never have been published.

Just half the volume is occupied by four complete indexes, one in each language. The book is highly useful, just as it stands, for pedagogical purposes. The synthesis attenuates the faults of each source list, and the four source lists have already been found very useful. No doubt this book will be much misused, but at least it can be used critically, for the original data are not disguised.

But its greatest value may yet prove to be as a pioneer work in statistical semantics, and for this reason linguistic students in general ought to examine it carefully and think out the implications for themselves.

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SVENSK ETYMOLOGISK ORDBOK. By ELOF HELLQUIST. Ny omarbetad och utvidgad upplaga. Two vols., pp. xii + 1484. Lund: C. W. K. Gleerups Förlag, 1935–9.

This is the posthumous second edition of Hellquist's excellent etymological dictionary, the first edition of which appeared during the years 1920–2. When the author died in 1933 he had prepared the manuscript for this revised edition. Its publication in fascicles was begun in 1935 but not completed until late in 1939. The last fascicles reached this country in March 1940.

The plan of the work had been somewhat modified during the publication of the original edition, that is in such matters as the types and numbers of loan words and dialect words to be included, citation of Danish cognates, etc. One result was twenty-four pages of additions and corrections (as against a single page now). The new edition is presumably more uniform and consistent in all such particulars. It is also longer, with 1473 pages in the main body of the dictionary—an increase of 201 pages, nearly 16%. Most of this seems to be

[2] See Irving Lorge, The English Semantic Count, Teachers College Record 39.65-77 (1937).

due to articles made even longer and fuller than in the first edition; although words have been added, and the suffixes have been brought into their alphabetical places in the dictionary instead of being treated in an introductory discussion of word formation. The publishers' announcement printed inside the cover of the first fascicle stated that the separate articles would in general be shorter, through the elimination of detailed expositions interesting only to specialists. That statement, fortunately, has not been justified.

A feature of the work, in both editions, is the comprehensive way most of the words are treated. The motive for this may have been popularization. The result is very welcome.

Cognates of Germanic words are given not only in the early dialects but in modern Danish, English, and German as well, and sometimes in Dutch; and of course the Old Swedish and Old Icelandic forms are both regularly cited. (In spite of the lack of any index of non-Swedish words, this is a useful, up-to-date etymological dictionary for a considerable part of the Old Norse vocabulary.)

When a fairly common word is restricted, in its Swedish meaning, to North Germanic, there is very likely to be a discussion, or at least mention, of equivalent, non-cognate terms used elsewhere in Europe, especially in other Germanic languages. See e.g. *barn, bläck, dimma, gråta, grädde, hälsa, jul, moln, sill, skog, skratta, smör, tölp.* Fairly often, attention is called to loans from Germanic in non-Germanic languages, chiefly French and Finnish; also loan words in English from North Germanic.

Altogether we have here a very valuable etymological dictionary, noticeably improved in a revised edition.

A technical improvement worth mentioning is the paper, which is better suited to its purpose than the stiff paper of the first edition. (Of course no scientific book or work of reference should be printed on paper that won't take ink; and in this respect the new edition is not a great deal better than the old.) An inconvenience for foreign users is the lack of a table of the troublesome common Swedish abbreviations. However, most of these can be found in tables in Swedish-English dictionaries.

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BROOKLYN, NEW YORK

STUDIES ON ARGYLLSHIRE GAELIC. By NILS M. HOLMER. (Skrifter utgivna av K. Humanistiska Vetenskaps-Samfundet i Uppsala. 31.1.) Pp. 232 [+ 8]. Uppsala: Almqvist & Wiksell; Leipzig: Harrassowitz, 1938.

This monograph is the work of a young Swedish scholar whose name is already known to readers of the Celtic journals. Holmer has investigated the Gaelic dialects of some places not previously surveyed, and the material he has collected makes a welcome addition to the growing literature of Irish phonetics. The book includes phonology (68 pp.), morphology (11 pp.), syntax (6 pp.) and a glossary (116 pp.). The sections on morphology and syntax are mere notes, and call for a more detailed account. Phonology is the main theme.

The plan of the book is peculiar. The facts observed are not presented in relation to the earlier language or even to modern Irish dialects. In the words

of the author (6), the Gaelic dialects described are, in many respects, not treated as Celtic, but as dialects of Scotland. Accordingly, comparison is made rather with the English dialects of the districts visited. Holmer divided his time, only four months in all, among three districts, Islay and Gigha in Argyllshire, and Skye further north, and the sounds of all three, and of the local variety of English, are presented in one summary account. The result is a rather confused description. He has not made sufficient use of the work of Quiggin, Sommerfelt, and Borgstrøm, or of O'Rahilly's Irish Dialects, so far as I can see. Occasional reference to them would have made his picture clearer. It is possible to give a useful account of a language hitherto unknown, without the aid of historical grammar or kindred dialects; but in a field where so many have already been at work, a comparative study is practicable and useful.

Sommerfelt, in particular, has explained the consonantal system of the Celtic languages (Système quantitatif celtique, NTS 5.121), and it has survived, for the most part, in the dialects of Scotland. He has shown (Les Consonnes vélarisées de l'irlandais, Acta Jutlandica 9.276) that the Irish consonants are dominated by three categories of opposition: voiced : voiceless; unlenited : lenited; velar : palatal. Whenever this system is threatened, it tends to resist and to prevail by means of a new expedient. Examples are the emergence in Irish (and Welsh) of the phonemes *L N R̄* as unlenited forms of *l*, *n*, *r*, and the extreme velar quality of non-palatal labials in northern Irish to balance the weak palatalization of those consonants when palatal. In Scotland alone, at least in Barra and in Argyllshire, the opposition of palatal and velar appears to have broken down in the labial series, although Borgstrøm's statement is questioned by Fraser (Scottish Gaelic Studies 5.95). In this connection I must say that Holmer makes a distinction between front consonants and palatalized consonants (65–6) which I do not appreciate. The point is that, in all the dialects, the opposition of palatal and velar is phonemic and leads to extreme development. On the other hand, in Scotland alone the first category is attacked, with the unvoicing of original voiced consonants, and so we find the curious feature known as 'pre-aspiration' of consonants originally voiceless (75).

This book provides us with a collection of new facts for which we owe gratitude to the author. I should have welcomed a few pages of phrases recorded from the speakers. The ample glossary, which makes up more than half the book, does supply valuable recorded material.

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OBSERVATIONS SUR LA LANGUE DES ACTES D'AFFRANCHISSEMENT DELPHIQUES. By MICHEL LEJEUNE. (Collection linguistique publiée par la Société de Linguistique de Paris, 47.) Pp. 161. Paris: Librairie C. Klincksieck, 1940.

About one thousand inscriptions have been found at Delphi recording manumissions of slaves. They form a particularly valuable body of documents, because the mention of priests and other officials enables us to arrange them in a relative chronology, often in a precisely dated chronology, running from about 200 B.C. to about 100 A.D. They are couched in fixed formulas, with syntactical and lexical variations, either coincident or successive. But they are in formulas

less rigid than the legal decrees, and are therefore to be regarded as closer approximations to the spoken language of their time and locality. For this reason they give, in the features which they exemplify, a reliable picture of the dialect of Greek spoken at Delphi.

Lejeune has not been able to utilize all the thousand inscriptions, because some of them are as yet unpublished, and others are too mutilated to be assigned to even an approximate date. But those available and datable, including some unpublished but accessible in manuscript, he has subjected to a thorough examination on certain points, to wit: the different conjunctions introducing result clauses, and the variation between nominative and accusative as predicate of infinitives of result, with the expression or omission of its subject (13–38); the subjunctive and the optative in contingent conditions (39–76); the variation between *μάρτυρες* and *-ροι* as plural of the word for 'witness', between *ἱερεύς* and *ἰαρεύς* 'priest', and between *τοί* and *οἱ* for the nom. plural article (77–103); *-τω -των -τωσαν* as endings of the 3d pl. imperative, *-οιεν -οιν -οισαν* as endings of the 3d pl. optative (105–26); *-οις* and *-σι* in the dat. pl. of consonant-stems, and *-ωι -οι* in the dat. sing. of *o*-stems (126–48).

Nowhere in Lejeune's monograph does he find it desirable to present an inscription, or a composite of inscriptions, exemplifying these features; therefore for clarity I present here a literal translation (with omissions) of a manumission text from Delphi, printed in Collitz and Bechtel, Sammlung der griechischen Dialekt-Inschriften, vol. 2, no. 2163. It is to be noted that the manumission took the form of a symbolic sale to the god; the part translated includes all the features studied by Lejeune, except the next to the last, easily identifiable by all who have even a slight acquaintance with Greek: 'Damostratos being archon, in the month Endyspoitropios, ... on the following conditions Andronikos son of Phrikidas handed over to the Pythian Apollo a female body named Eutaxia ... for three minas of silver, and her son Parnasios, for a price of two minas of silver, and he has the entire sale-price, according as Eutaxia and Parnasios entrusted the purchase to the god, so that they should be free and exempt from seizure by all persons throughout their life, doing what they may wish and going away whither they may wish. Guarantor according to the law of the city, Menes son of Pisistratos. And if any one should lay hold of Eutaxia or of Parnasios for enslavement, the seller Andronikos and the guarantor Menes shall maintain as valid the sale to the god. And if they should not maintain as valid the sale to the god, they shall be subject to suit under the law of the city. ... Witnesses: the priest of Apollo, Praxias, and the archons Athambos, Glaukos, ...'

In these items Lejeune finds the interplay of local dialect forms, of the koine of the Aetolian league, of the Hellenistic koine. If his complicated findings (149–57) can be summarized at all, the summary is somewhat as follows: At the outset of the period, about 200 B.C., the language shows almost no Ionic-Attic infiltration, but an essential persistence of the local Delphian dialect, and a growing partiality for the optative in conditions, at the expense of the subjunctive—a trend diametrically opposed to that in Hellenistic Greek; the strong resistance of *εἴ κα* to the Attic and Hellenistic *ἐάν*, so far as the subjunctive

remains, is notable. But in the first century of the period, 200–100 B.C., the influence of the Aetolian koine is strong in a number of points; later, with the exceptions noted, the Hellenistic idiom gradually ousts the local idiom. Yet in general the Delphian accepted the Hellenistic forms slowly, and was more resistant to them than most of the local Greek dialects.

Lejeune's investigation is one of those smaller pictures in the history of a language, without which its larger history cannot be properly portrayed in detail. He seems to have performed well and accurately the task to which he set himself.

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ITALIENISCHE ORTSNAMEN IN GRIECHENLAND. By HEINRICH and RENÉE KAHANE. (Texte und Forschungen zur byzantinisch-neugriechischen Philologie 36.) Pp. xxviii + 379. Athens: Verlag der Byzantinisch-Neugriechischen Jahrbücher, 1940.

ITALIENISCHE MARINEWÖRTER IM NEUGRIECHISCHEN, anlässlich D. C. Hesseling, Les Mots maritimes empruntés par le grec aux langues romanes. By RENÉE KAHANE. (Estratto dall' Archivum Romanicum 22.4.) Pp. 78. Firenze: L. S. Olschki, 1939.

The modern Greek language has been much influenced by various non-Greek sources. Dr. Kahane and his wife, Dr. Renée Kahane-Toole, both living now in Los Angeles, have been actively concerned since 1932 with the Italian elements surviving from the Venetian penetration. G. Meyer laid the foundation for this investigation with his Neugriechische Studien, No. 4, published by the Vienna Academy (Phil.-Hist. Klasse 132, 1895), and D. C. Hesseling (cit. supra, Amsterdam, 1903) studied the Greek nautical terms of Italian origin, which were necessarily considerable in number.

There is no method for studying the permanent infiltration of an alien people more satisfactory than the tracing of place-names. The Italian influence on Greek place-names is to be found, in descending degree, in the western islands, the eastern islands, the Peloponnesus, northern Greece, European Turkey, and Asia Minor. Out of 268 items collected by the Kahanes (not including those derived from personal names) only 102 were previously listed by Meyer. Most of the Italian etyma have to do with military, marine, ecclesiastical, and construction terminology, and with appellatives. There are some notable exceptions: such words as *zucca* 'gourd', *patata*, and *gioia*. Commonest of all, spread throughout Greece, are the descendants of Ven. *cavo*, *loza*, *plazza*, *porto*, *punta*, and *canton*. The place-names derived from appellatives are confined to the western islands, where the Venetian influence was strongest.

It is very difficult to examine critically the words brought together in this investigation without having some recourse to the source material. However, the reader will be hesitant before the suggestions made for Πουττάκι (188) and Πέγια (50). The authors are rather liberal in their use of the term appellative, which the dictionaries define as 'descriptive name'. In this book a special section (239–65) is devoted to etyma of this type. Just how can you classify

as appellatives such expressions as *allesta* 'be quick!', *conte* 'count', *gioia* 'joy or jewel', or *lasagna* 'noodles'? Are these descriptive of places or of individuals? Although it does not affect their argument, some of us would hesitate to separate rigidly γάτος from κάττος (128) on the ground that one is Romance and the other Greek. After all, it is believed that the alternation of initial *g* and *k* was a Mediterranean phenomenon. Maybe it would be an impossible task to study these names from a chronological point of view, but that is what we should now like to see, since the Kahanes have established the geographic spread.

The second study, by Dr. Kahane-Toole, reexamines the Italian nautical etyma and brings up to date the material on 130 terms as presented originally by Hesseling. There is not so much originality here, but the work is ably done. The author takes account also of the additions to Hesseling made by Karl Dieterich, Enrico Ramondo, A. Hepites, and A. Thumb. Were some of these words not spread by the lingua franca of the Mediterranean, which was a κοινή, rather than by conscious use of Italian? We must call attention here to another study by Dr. H. Kahane, Gli elementi linguistici italiani nel neogreco in this same volume of the Archivum Romanicum (120–35).

Studies on the Romance element in Modern Greek by the Kahanes may be limited somewhat in the future by the lack of facilities offered in this country for research in Modern Greek, but we have a thoroughly awakened interest in dialectology and will be grateful for the collaboration of these two scholars.

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DEVELOPMENT OF THE CANAANITE DIALECTS: AN INVESTIGATION IN LINGUISTIC HISTORY. By ZELLIG S. HARRIS. (American Oriental Series 16.) Pp. x + 108, with folding chart. New Haven: American Oriental Society, 1939.

Z. S. Harris, who is known as the author of an excellent Phoenician Grammar,[1] in this new book applies modern linguistic methods to Canaanite. It is the first time that a book is devoted to an attempt at describing the growth of the Canaanite dialects in its successive steps. While Harris's earlier book was a description of one not too well known Canaanite dialect, this second book advances toward the linguistic interpretation of the established facts of Phoenician and Hebrew grammar. It further widens its horizon by the inclusion of Ugaritic (the language of the Semitic inscriptions from Rās Shamra), to the explanation of which Harris himself has made valuable contributions.[2]

The author first defines 'Canaanite' (Chapter 1), discusses its relationship to the other Semitic languages (Chapter 2), and indicates the sources from which he is drawing (Chapter 3[3]). He then proceeds to the central part of the book (Chapter 4)—more than half of the volume—which in 65 sections presents a list of linguistic changes in chronological order. The two remaining chapters

[1] Cf. Sapir's review in LANG. 15.60 ff.

[2] JAOS 57.151–7; 58.103–11; cf. furthermore Smithsonian Report for 1937, 479–502. Harris cooperated with Montgomery in the composition of their book The Ras Shamra Mythological Texts (cf. LANG. 13.326 ff.).

[3] The first three sections of this chapter seem to me ill placed in their respective context.

summarize the trends observable in the evolution of Canaanite (Chapter 5), and on the basis of the author's results study the growth of dialect boundaries which finally results in the creation of various Canaanite dialects (Chapter 6). A chart at the end of the book gives a graphic picture of Harris's views.

There is no need of praising the work of an author who has such excellent contributions to linguistic science to his credit. Harris's statements are always based on a complete survey and a well-considered appraisal of the facts; moreover, they are invariably presented in an extremely attractive way. When, nevertheless, disagreement on certain points, and among them points of fundamental importance, is possible, the only reason is a complex situation which it is difficult to disentangle.

Harris lays particular emphasis on the principle of diffusion (15, 91 ff.). He conceives of sound changes as waves that spread from a center over an area united by close linguistic contacts, discarding as obsolete the 'old family-tree assumption'. In my opinion, this attitude goes too far. Both assumptions are valid, but they apply to different situations. The wave theory is of significance in cases where the wave cuts through boundaries which had previously been established, and that, ultimately at least, by a split-up as supposed by the 'Stammbaum-Theorie'. In other words, the 'Wellen-Theorie' does not render superfluous the 'Stammbaum-Theorie'.[4]

In our case, moreover, Harris is led to his point of view by two basic assumptions which, in my opinion, are erroneous. These are (1) his belief in the Canaanite character of Ugaritic, (2) his acceptance of Semitic words preserved in Egyptian in the so-called syllabic orthography as Canaanite. Both assumptions are merely taken for granted, they have never been proven. The demonstration of their incorrectness cannot be undertaken in this review; it is contained in an article printed elsewhere.[5] Suffice it to state here that the alleged cases of diffusion vanish with the rejection of the two assumptions. It appears then that the relationship between Canaanite and Ugaritic can well be explained by the good old Stammbaum-Theorie.

Thus, I see no necessity for separating the merger of *ṯ* and *š* in Hebrew (Harris's list No. 39) from the same merger in Phoenician (list No. 13). The Egyptian evidence does not hold, neither does the Akkadian. Before Akkadian spellings are used, it is imperative to gain clarity as to their significance. This is not always simple, and the spellings of the sibilants are particularly evasive, since the habits of the scribes vary with the period in which they lived and with the place in which they worked. It is incorrect to conclude from a spelling like *La-ki-si* (EA 288.43) that the name contained sāmekh. The sound in question can be neither sāmekh (which is expressed in that syllabary by the *z* set of signs) nor śīn (why else *ša-de-e* for *śādē* 'field'?). The *s* set of the cuneiform syllabary here used serves as a mere scribal variant for the *š* set (as in contemporary Nuzu[6]). The fact that the representative of *ṯ* shares in the variant

[4] Cf. L. Bloomfield, Language 317 f.
[5] See LANG. 17.127 ff.
[6] See LANG. 14.136 f.

writings for the representative of *š*/*ś* rather indicates that the merger occurred in Palestine before the Amarna age.

As far as the development posterior to the Amarna age is concerned, much depends on the manner in which the interrelated phenomena of accent and vocalism are interpreted. Harris has virtually adopted the views which Bergsträsser advanced in his Hebräische Grammatik more than twenty years ago, and which may be regarded as the classical form of the old orthodox system that operates with the assumption of 'pretone lengthening'. Both scholars presuppose a period where all nouns, and furthermore the verb forms with pronominal suffix, were stressed on the penult, but where the verb forms without pronominal suffix were subject to a 'Dreisilbengesetz'. Harris's only innovation is the special treatment he assumes (list No. 24) for the vowel before the suffixes of the second persons. He has correctly seen that in this case Bergsträsser's rules are irreconcilable with the facts. But Harris's innovation is hardly defendable. Why should a special treatment be given to this one category: nouns with suffixes of the second person? If we obtain *ləβaβχæm* from **libabakumu*, why does **libabahumu* display the effect of a different treatment? Furthermore, why does **libabakumu* yield *ləβaβχæm*, but **libabakā*, again with another treatment, *ləβȁβəχá*?

Harris's attempted improvement obviously does not remedy the basic faults of Bergsträsser's system; it answers only to the smallest part of the questions which I have put in JAOS 59.437. The problem, I maintain, cannot be solved with aprioristic makeshifts like 'Dreisilbengesetz', 'penult stress',[7] 'antepenult stress'.[8] The only method which will lead to the solution of the problem is the inductive method. One has to classify the stress patterns which actually occur and has to search for the principle which explains them all, or at least as many of them as possible. The conclusions to which the application of this method leads (among them the elimination of the so-called 'pretone lengthening'[9]) have been outlined in an article published in JAOS 59.431 ff.; it had not yet appeared when Harris wrote his book.

I have to limit myself to these general criticisms. They tend to show that the rejection of certain basic notions with which Harris operates must necessarily

[7] This is the solution proposed by Chr. Sarauw in the posthumous treatise Über Akzent und Silbenbildung in den älteren semitischen Sprachen (Det Kgl. Danske Videnskabernes Selskab, Hist.-filol. Meddelelser 16.8 [1939]). Sarauw believes that the earlier penult stress is preserved in the pausal forms. I can only warn against taking recourse to pausal forms; they are limited to special conditions and should not be used without due consideration of these conditions.

[8] Thus A. Poebel, AJSL 56.225–30, 384.7 (1939). Poebel has so far failed to explain why the forms **dabarukummu* and **ṣadaqatukummu* which he thus reconstructs (228) do not display antepenult stress. I presume that this has to do, in Poebel's opinion, with syllabic structure; it is probably for this reason that he reconstructs the suffix as *-kummu* (with geminated *m*). This would call for further justification.

[9] Poebel's views seem to be similar in this respect. I had reason to believe that Albright had likewise abandoned the assumption of pretone lengthening (see JAOS 59.432 fn. 6, 458). In the circumstances, Albright's emphatic and unqualified endorsement of Harris's statement concerning this point (§65e) in JAOS 60.422 comes to me as a complete surprise.

result in a divergent interpretation of the actual facts. I have hardly to add that despite deepgoing differences of opinion I cannot but admire the consistent logic with which Harris has erected his building. Even when one disagrees, one cannot afford to miss his reconstruction of the events; he presents numerous fine observations from which even dissenters like me have to learn.

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A SERBO-CROAT PHONETIC READER. By DENNIS FRY and ĐORĐE KOSTIĆ. Pp. viii + 127. London: University of London Press, 1939.

This book is one of the excellent series of London Phonetic Readers edited by Daniel Jones. As always in this series, it is well printed and clearly compiled, and should prove highly useful to anyone wishing to acquire the correct pronunciation of a rather extensive Serbo-Croatian vocabulary.

The introduction (1–3) indicates the relation of the phonetic symbols used to the usual orthography (both Serbian cyrillic and Croatian roman), and gives a phonetic table of the usual type for the Serbo-Croatian consonants. Notes on the Serbo-Croatian sounds (4–17) discuss the consonants and vowels in some detail. Texts and translations (on opposite pages) occupy pages 18–59. A glossary (60–127) completes the book.

The principal objections to the work are those based on general phonetic and phonemic theory, and could no doubt be replied to by the statement that the intention of the book is purely practical. We believe however that often such purely practical attempts are misleading precisely because of neglect of theoretical considerations.

It is said (1) that Serbo-Croatian orthography is 'phonetic'; by this is meant, no doubt, that it is phonemically correct, in that each phoneme is represented by a unit symbol, and always by the same symbol. The statement is then made (1) that double consonants do not occur, and that identical consonants at word juncture (as in *prvom mestu*) are pronounced as a single somewhat long consonant, the transcription being [pr·vo˽mestu]; such a transcription not only falsifies the phonetics by symbolizing the additional length of the *m* as something seeming to proceed from the preceding vowel, but is definitely misleading phonemically, as the added quantity is a matter of there being two *m*'s at this point. On the other hand, what is cited as an exception to the non-occurrence of double consonants, two *j*'s as in *najjači*, transcribed with [jj], is not an exception at all: it is simply that here the first allophone (subphonemic variant) of the *j* phoneme is non-fricative [j̮], while the second is somewhat fricative; the transcriber, trained in phonetics, has noted and marked something that is quite irrelevant to the structure of the language; such phonetic erudition is rightly condemned by Bloomfield in Language 84–5 (New York, 1933).

The table of consonants (3) calls *č, dž, ć, đ, š, ž* alveolar and puts them in the same column with *l, r*, while *j, ń, ļ* are in a separate column marked palatal; this is a very bad classification. Actually, only *l* and *r* are alveolar, but the dental *t, d, n*, the 'dento-alveolar' *c, s, z*, and the two alveolars ought to be in three columns subsumed under the single heading coronal; then *ć, đ* are advanced

palatals, while *č, dž, š, ž* are medial palatals, as are *j, ń, ľ*, and these two columns should have the single heading frontal.

The allophones of vowels are given in detail, but the symbolization and description of the accents is such as can only lead to confusion. The (short) falling accent (*ȁ*) is here marked as a heavy stress [ˈa], and the (short) rising (*ȃ*) is called a weak stress [ˌa]; phonetically, the latter is weaker at the beginning than the former, but it is more a matter of the contour of the stresses (increasing strength for *ȃ*, decreasing strength for *ȁ*) than of their relative strengths that counts. Then 'long falling' (*â*) is marked [ˌa:], while 'long rising' (*á*) is [a·]; this is very bad, as phonemically *â* is *ȁ* plus length, and *á* is *ȃ* plus length, so that the symbolic association here created between [ˌa] and [ˌa:] is entirely false. The description of the long accents fails to make the necessary associations between the corresponding longs and shorts, or to say anything about the strength of stress on the longs (cf. my article, Serbo-Croatian accents and quantities, LANG. 16.29–32). Also, nothing is said about unstressed long vowels, and those postulated by the grammars are here transcribed in the same way as unstressed shorts, that is, without any special marking.

An opportunity is neglected (14) to call attention to the phonemic difference between [ts] and [c] when *odseći* is transcribed; the English speaker might not notice the symbolic difference between [ts] and the ligatured symbol used for [c].

The treatment of assimilation (16) is inadequate in that conditions of occurrence are not stated for the two kinds described.

In the texts word stresses are often changed in an attempt to show sentence stress. The two (accent and intonation) are on separate levels, however, and a single system of symbols only confuses the reader unless he has a teacher handy at all times. And if that is so, he need have only orthographic texts anyway, as the kind of transcription here given helps very little.

In the vocabulary, which lists words in transcription followed by the cyrillic spelling, there occur many words with the double-dot length-mark internally unaccompanied by the lowered stress mark in the same syllable (as [boˌgatsta:va] = *bogȁtstāva*, which, however, according to the grammars, should also have final *-ā*); this use of the symbol for unstressed longs has not been explained, and will surely lead the uninitiated reader astray. Further, there are words marked with the 'long falling' [ˌa:] elsewhere than on the first syllable; such an accentuation is not found in standard literary Serbo-Croatian, and the reviewer is at a loss to know what is meant by the symbolization; again, some monosyllables are marked with 'long rising', and this too is only possible in certain Croatian dialects. The absolute need of basing one's transcriptions on sound phonemic analyses is shown by such errors.

We can be glad that this little book exists, for it furnishes much information about a language hitherto little described in English, but we must regret that it does not give us more information at certain points where 'purely practical' analyses do not suffice.

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LA CATÉGORIE DES CAS: ÉTUDE DE GRAMMAIRE GÉNÉRALE, in two parts. By LOUIS HJELMSLEV. (Acta Jutlandica 7.2, 9.1.) Pp. xii + 183; viii + 77. Aarhus: Universitetsforlaget, 1935, 1937.

The foreword of the second part of this work (iii) indicates that a third and final part is to contain the general conclusions. In the present circumstances of the place of publication, it is not likely that the promised third part will be forthcoming soon. It therefore seems proper to present a review of the first two parts, although such a review cannot be considered definitive.

Part I contains a section on the problem (1–110), subdivided into chapters on the Greek and Latin theory of cases (1–32), the Indo-European theory (33–61), the panchronic theory (62–70), and the statement of the problem in detail (71–110), while a second section discusses the system, in terms of general structure (111–126), sublogical system (127–136), systems of three dimensions (Tabassaran, Lak) (137–183). Part II continues the system with studies of systems of two dimensions (Avar, Hurqili, Küri, Chechenian, Udi, Eskimo), and ends with remarks on systems of one dimension (76–7). Part III is to contain studies of such one-dimensional systems (Finno-Ugric, Indo-European). The first three chapters survey the history of grammatical thinking on the subject of case, the rest of the work presents Hjelmslev's own ideas and applies them to actual linguistic systems.

We are told (1) that the category of case is an extremely important one, that it is found in all languages, and that grammatical analysis must begin by analyzing the case-system. The reviewer finds these statements hard to understand. In his own work, he finds it necessary to determine the categories of a language by the examination of the inflections and constructions that are present, and then to make statements of the relationships between these elements; if he finds it possible to establish nouns as a separate part of speech, and to describe a set of inflections for nouns which indicate some of the relations of these nouns to, say, verbs and other nouns, then he is willing to label these inflections 'cases'. But the reviewer does not know what a 'general category of case' might be, and he believes that no linguist can know what exists or does not exist in 'all languages'.

To establish a system of general linguistics, as Hjelmslev tries to do in this work and elsewhere, is not only a laudable ultimate goal; it is also a very desirable and necessary next step in the development of our science. But all it can mean is setting up a quasi-mathematical system of procedures for analyzing linguistic material. It cannot mean giving general definitions to such 'logical' categories as case. If we knew all about all the languages of the world, we might possibly say that there are in a certain number of them categories which can all be called 'case' because they express certain kinds of relations; but short of such knowledge any definitions are incomplete or a priori.

Hjelmslev states (21) that since it is well known that many languages use prefixing and word order as grammatical processes, it is in order to ask whether there may be languages in which 'l'idée des cas' is expressed by these processes. It seems to the reviewer that there is here a grave methodological fault: prefixing can indeed be looked upon as a process of the same type as suffixing, and there may be languages which have cases formed by prefixes; but word order is

a process of a different kind altogether, and the relations shown by it are constructional (syntactic) categories, and not inflectional ones. True, there is no reason why one could not arbitrarily apply the term 'case' to the relational categories of English nouns expressed by word order, but then one could not also use the term for inflectional categories.

For Hjelmslev linguistic categories are epistemological categories, and linguistic 'concepts' are of the same kind as logical concepts (29). To the reviewer linguistic categories are classes of relations between linguistic forms, and the function of logic (symbolic logic = mathematics) in this connection is to provide a system of analysis, that is, rules for talking about linguistic forms.

At several points Hjelmslev suggests that the vocative is not properly a case at all; the Hindu grammarians are praised (34) for considering that 'le vocatif n'est pas compris dans la catégorie des cas'. However, what Pāṇinī actually says is that the nominative is used for calling (Böhtlingk 2.3.46–8), but has certain special forms (6.1.69), and this is very different from excluding the vocative from the set of cases. In any event, the reviewer cannot understand why such exclusion constitutes an advantage: if a language has a set of inflections for nouns and one of the inflected forms (even if it be a bare stem, so-called) has functions that we usually label 'vocative', and if these inflected forms are called cases, then the vocative is a case.

On the other hand, Hjelmslev says (68–9) that while it is true that the cases of German, expressed by suffixes, are quite different from the 'cases' of classical Chinese, expressed by word order, the latter are cases: '. . . *ce sont des cas.* Les distinctions faites par un ordre fixe des éléments agissent sur le même plan de relation que les distinctions faites par les formants casuels'. At the risk of repetition, the reviewer must say that he believes that such statements are methodologically faulty and put grave difficulties in the way of scientific linguistics. To cite an instance, consider a statement made about English. Hjelmslev objects (80) to limiting 'case' to English noun forms with suffixes (that is, to the distinction of 'common case' versus 'genitive') and excluding the categories set up by word order; but since English does have morphological case distinctions, we must of necessity set up the syntactic categories on a separate level. It may be desirable to point out the relation between the two kinds of categories, but any sound linguistic method must keep them separate.

It becomes evident that Hjelmslev is trying to establish a basic category of meaning: 'Une fois posée la définition sémantique de cas, on sera en possession d'un critérium pour circonscrire exactement la catégorie' (82). But this is simply impossible in the present state of linguistics: we can work with formal criteria—phonetic, phonemic, morphophonemic on the one hand, morphemic and syntactic on the other; but we cannot as yet work with categories of meaning, and will not be able to do so until we have devised a mathematical system of linguistic analysis by means of which we will be able to extract from the other criteria all their relevant relations and know exactly where 'meaning' begins and how to treat it.

Examining Hjelmslev's treatment of linguistic systems, we find that the method is generally objective, but of course the results must be judged in the

light of the criticism of the basic approach. None of the material was available to Hjelmslev at first hand, and all the languages so far discussed, except Eskimo, are Caucasic; as the reviewer knows nothing about them, he cannot discuss details. It is clear, however, that Hjelmslev's treatment arranges categories more systematically than the traditional grammars of these languages, and the arrangement often enough seems to correspond to real morphemic distinctions (one set of 'cases' will be expressed by a single final suffix, another set by two suffixes, and so on).

It is to be hoped that the third part appears without too much delay. Then, when better-known languages are treated, it will perhaps be possible to understand the author's system better, and to appreciate more clearly what he is trying to do. For the present the reviewer can only regret that even at the hands of so competent a scholar as Hjelmslev this attempt at a 'general grammar' should be so disappointing.

GEORGE L. TRAGER

NOTES

The American Council of Learned Societies has been enabled by a grant from the Rockefeller Foundation to offer during the summer of 1941 intensive language courses in Spanish and Portuguese, to be held on the campus of the University of Wyoming at Laramie from June 23 to August 22. Not more than thirty students will be accepted in each course, and each student will be expected to devote his entire attention to the study of one language. No previous training in Spanish or Portuguese is required. For particulars address the Administrative Secretary, American Council of Learned Societies (907 Fifteenth Street, N.W., Washington, D. C.).

The third Summer Seminar in Arabic and Islamic Studies will be held in the Graduate College, Princeton University, for a period of six weeks beginning June 21. The courses offered, which will be open to a limited number of men and women of graduate standing, will include several in the Arabic, Turkish, and Persian languages. For further information address Dr. Nabih A. Faris (P.O. Box 342, Princeton, N. J.).

We regret to announce the death of three members of the Linguistic Society. Ezra Kempton Maxfield, a Foundation Member of the Society, died on January 8, 1941; Manuel J. Andrade, a member since 1926, died on January 26; F. Stanton Cawley, a member from 1926 to 1931, died on February 15.

The Executive Committee has elected a Committee on the Investment of Linguistic Institute Endowment Funds, consisting of E. H. Sturtevant, chairman; A. C. Baugh, J. M. Cowan, W. F. Edgerton, Henning Larsen, and E. B. Williams.

Since the paper stock used for Language 17.1, Bulletin No. 14, and Dissertation No. 32 (see Lang. 17.79) has turned out to be unsatisfactory, we return with the present issue to the stock used formerly. Other features of the new format remain unchanged.

The following have been elected to membership in the Linguistic Society:

CALDWELL, ROBERT A., Ph.D., Assistant Professor of English, University of Arkansas, Fayetteville, Ark.; *Old and Middle English, Celtic.*

CHUDE, FANNY, M.A., 17 Boylston Hall, Cambridge, Mass.; *Oriental languages.*

COUSINS, CLARENCE EDWIN, A.M., Associate Professor of French, University of Iowa, Iowa City, Iowa; *phonology, morphology.*

ENGERRAND, GABRIEL H., M.A., Assistant in Romance Languages, University of Iowa, Iowa City, Iowa.

FISHER, MRS. MARGARET T., Ph.D., Assistant Professor of English, Butler University, Indianapolis, Ind.; *lexicography, Old English.*

FRAUCHIGER, FRITZ, Ph.D., Assistant Professor of Modern Languages, University of Oklahoma, Norman, Okla.; *American Indian languages.*

FRESE, SHIRLEY RUTH, A.B., 3812 Spruce St., Philadelphia, Pa.; *Greek and Latin.*

GREENBERG, JOSEPH H., Ph.D., Honorary Research Fellow, Yale University; 1424 E. 13th St., Brooklyn, N. Y.; *Semito-Hamitic, African languages.*

GREET, WILLIAM CABELL, Ph.D., Associate Professor of English, Barnard College, Columbia University, New York, N. Y.

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KELLY, Rev. JOHN M., 404 Albert Hall, Catholic University of America, Washington, D. C.; *Latin and Greek.*

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MCDERMOTT, WILLIAM C., Ph.D., Assistant Professor of Latin, University of Pennsylvania, Philadelphia, Pa.

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ROUBEY, LESTER WALTER, Ph.D., Instructor in Spanish, Division of Adult Education, Baltimore, Md.; *Romance and comparative linguistics.*

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This number of LANGUAGE
is dedicated
to
CARL DARLING BUCK
Emeritus Professor of Comparative Philology
in the University of Chicago
President of the Linguistic Society of America
in 1927 and 1937

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THE INDO-HITTITE AND HITTITE CORRESPONDENCES OF INDO-EUROPEAN ə

E. H. Sturtevant

Yale University

[IH ъ*A* became IE ə. IH ъ*ʔ* became Hitt. *a*; IH ъ*x* became Hitt. *aḫ*(*ḫ*); IH ъ*γ* became Hitt. *aḫ* before a vowel, *a* before *s*.][1]

Ferdinand de Saussure's[2] theory of the Indo-European long vowels in the normal grade was based upon an apparent parallelism between diphthongal bases and heavy bases. If one assumes that *ē* in IE *dhē-* comes from *é* plus *E* and the *ā* of IE *stā-* comes from *é* plus *Ạ*,[3] then the radical vocalism of λείπω : ἔλιπον corresponds to that of τίθημι : θετός and of ἵστᾱσι : στατός. In other words, de Saussure derived IE ə from a vocalized consonant—a consonant that gained syllabic value when it came to stand between non-syllabics, in the same way as the semivowels, *y*, *w*, *r*, *l*, *n*, and *m*. This view of IE ə is still retained, with differences of detail, by A. Cuny,[4] W. Couvreur,[5] and Holger Pedersen.[6]

In opposition to this, Kurylowicz[7] has developed a theory that Indo-Iranian *i* = European *a* comes from *A* plus ъ. Starting with the observation that an Indo-European syllable can close with a consonant group only if the degree of openness constantly decreases (e.g. *wert-*, *went-*, *deuk-*), he inferred from such syllables as *se'd-* > *sēd-* and *senx-* > Hitt. *sanḫḫ-*[8] that the laryngeals are somewhere between the semivowels and the mutes in this respect. Therefore, since even the syllabic semivowels usually retain something of their consonantal character in the historic languages, it is difficult to trace vocalic ə to non-syllabic laryngeals. Consequently he thinks that an anaptyctic vowel developed within a group of three consonants whose middle member was a laryngeal. Since such an anaptyctic vowel before the laryngeal would, he says, have been lengthened in the same way as a full vowel in that position, we must assume that it was an anaptyctic vowel after the laryngeal that gave rise to ə.

This argument, cited from the article of 1927, is far from cogent, but it seems to lie at the basis of the doctrine presented in the book of 1935, except that

[1] I assume four IH laryngeals: ', a glottal stop of palatal color; ⁚, a glottal stop of velar color; *x*, a voiceless velar spirant; and *γ*, a voiced velar spirant. *A* = any laryngeal; *Ạ* = either ⁚ or *x*; *E* = either ' or *γ*; *ʔ* = either ' or ⁚; *H* = ', ⁚, or *γ*.

[2] Mémoire sur le système primitif des voyelles dans les langues indo-européennes, especially 134–84, = Recueil des publications scientifiques de Ferdinand de Saussure 1–268, especially 127–73.

[3] Here and elsewhere in this paper I substitute my own symbols and terms for those used by the scholars cited.

[4] Especially Rev. de Phonétique 2.102 f.

[5] De Hettitische *Ḫ*, een Bijdrage tot de Studie van het Indo-Europeesche Vocalisme 214–22.

[6] Hittitisch and die anderen indoeuropäischen Sprachen 180.

[7] Prace Filologiczne 11.232–4 (1927), Études indoeuropéennes 1.55–72 (1935).

[8] Kurylowicz cites *sēd-* as containing 'ə plus occlusive'; he does not give the meaning, and I do not know any such Indo-European combination. He does not give an illustration of 'sonante plus ə', and so I have had to supply one.

Kurylowicz has now adopted the theory of reduced short vowels (schwa secundum), so that he deals with reduced forms of former full-grade vowels instead of anaptyctic vowels.

The theory leads to strange and improbable conclusions. IE *ə* < *Aŏ* does not stand in ablaut relation with *ê* < *éA*, but with *é* < *Aé*; *sthitás* (and also στατός) is reduced grade of *tíṣṭhati* rather than of ἵστᾱσι. The perfects τέθεμεν and *dadhimá* are reduced grade forms (*dhedh'ŏmn̥*) beside a full grade stem (*dhedh'é-*) seen in the Skt. dual *dadhátus*. The corresponding present forms *dadhmás* and τίθεμεν, on the other hand, represent the reduced grade of *dádhāti* and τίθησι (*dhidhé'ti*); IE *dhidhŏ'més* suffered complete loss of *ŏ'* in Sanskrit, while Gk. changed *ŏ'* to *ε*, *ŏx* to *α*, and *ŏγ* to *ο*. This, however, was true only of medial syllables; initial syllables treated *ŏA* precisely as the corresponding full vowels both in Sanskrit and in Greek. Skt. *pāmi* : *pāmás* is not ascribed to analogy, although one could not find an easier place for analogy to work if the inherited pair was *pāmi* : **pimás*. On the other hand Gk. φημί : φαμέν is said to be due to the analogy of such pairs as ἵστημι : ἵσταμεν.

The seventeen pages that Kurylowicz devotes to this matter in his book are extremely difficult; although I have gone over them many times, I am not sure that I understand them. Unless there is something in them that escapes me, I must conclude that Kurylowicz has thrown away some of the surest results of comparative grammar in the interests of his theory. How can he argue that *ŏAC* must yield a long vowel just because *eAC* does? (Even he finds that *ŏAC* in a medial syllable yields a short vowel in Gk. ἵσταμεν, τίθεμεν, and δίδομεν and zero vocalism in Skt. *dadhmás* and *dadmás*!) On what ground does he analyze the Skt. dual *dadhátus* as *da-dhá-tus* instead of *da-dh-átus*, with accent on the ending as elsewhere in the dual and plural? Why does he prefer to look for evidence for phonetic laws within a formal category like the present indicative of a particular verb instead of in a relatively isolated form like the verbal adjective in *-tós*? A complete statement of what I believe Kurylowicz's doctrine to be would require many pages; and a complete refutation would require a great many more; but I shall postpone such a treatment until I learn that he has convinced some other scholars.

None the less there is some phonetic basis for the argument against considering IE *ə* a vocalization of a laryngeal. Cuny[9] proves that the laryngeals were more persistently consonantal (non-syllabic) than the semivowels. This appears most clearly in syllables which, after the ablaut changes, contained semivowel plus laryngeal between consonants; the combination *strAtós*[10] vocalized *r* and retained the *A* as a consonant; *str̥Atós* > IE *str̥tós* > Lat. *strātus*. Similarly we must assume *bhuAtós* > IE *bhūtós* > Skt. *bhūtás*; *gn̥Atós* > IE *gn̥tós* > Skt. *jātás*, etc. With this consistent vocalization of the semivowel rather than the laryngeal, contrast such forms as IE *dwis* 'twice', Skt. *dyut* 'splendor', IE *tris* 'thrice', Gk. γνύξ, γνύπετος, IE *ḱun-* (Skt. *śunas* 'of a dog') : *ḱwn̥-* (Med.

[9] Rev. de Phonétique 2.101–9.

[10] In this and the next two paragraphs I write all laryngeals *A* so as not to anticipate the following argument from their probable phonetic character.

σπακα = κύνα—Hdt.), IE. *qwetur-* (Skt. *caturthás* 'fourth') : *quetwr̥-* (Gk. τετρακόσιοι 'four hundred'). This state of affairs can, to be sure, be reconciled with the theory that ə came from a vocalized laryngeal in such forms as IE *dhətós* 'placed', *stətós* 'standing', Gk. ἔσταμεν 'we stand', Skt. *ásthita* 'he stood'. Even though the laryngeals always retained their consonantal function after a semivowel and before a non-syllabic they may have carried the syllable when they came to stand between stops or after a stop and before a non-syllabic semi-vowel.

In some other positions, however, it is more difficult to assume vocalization of laryngeals. Skt. *dhenús* 'yielding milk, cow' is currently[11] traced to IE *dhəinús*, which would imply IH *dhAynéu-* with the laryngeal carrying the syllable. That seems scarcely consistent with the evidence just adduced that *y* becomes syllabic more readily than the laryngeals; one might expect rather *dhAinéu-* (like IE *dwis, tris*, Gk. γνύξ), since *i/y* is the most open phoneme in the group. Virtually the same situation exists for many other instances of IE *ei* and *eu*.

I shall presently show[12] that the Greek adjectives in -αιος (e.g. βίαιος 'forcible, violent') and the Sanskrit adjectives in *-eyas* (e.g. *sabheyas* 'skilled in council') go back to IE *-əhyos*; if ə is due to a vocalized laryngeal, Gk. βίαιος must come from IH *gwiyAyos* > IE $g^{w}iyəhyos$. But it is incredible that a laryngeal would become syllabic in such a position; we must expect instead IH *gwiAyos*, which would certainly yield IE $g^{w}īyos$. This word, of course, presents a special case on account of the phoneme preceding -αιος, and so we must examine some of the other words involved. Skt. *deyas* 'dandus' implies, according to the theory under discussion, IH *dAyos* and Gk. δεκαταῖος implies IH *dekmtAyos*, but we should rather expect IH *dAiyos* (which would give Skt. **dhiyas*, **diyas*, or perhaps **dyos*) and *dekmtAyos* (which would yield Gk. *δεκασος). The case is similar with words like Gk. βολαῖος, which would imply IH *gwolAyos*, although Sievers' law would demand IH *gwolAiyos* and that would become IE $g^{w}oliyos$. Again Homeric κέραιε 'mix'[13] would have to be traced to IH *kerAye* instead of the far more plausible IH *kerAiye*.

Less cogent but by no means negligible is the consideration that voiceless sounds are not likely to carry syllables and are still less likely to give rise to purely vocalic sounds. No doubt Eng. *pst!* is a syllable, and to Chinese speakers it appears strange that we hear only one syllable in Eng. *first*. Furthermore Lat. initial *s* before *t* perhaps became syllabic and finally yielded a full vowel in such words as Fr. *étude*. Nevertheless it would be surprising if we were compelled to trace IE ə to voiceless spirants, particularly in the position after voiced continuants. That some of the laryngeals were voiceless follows from the fact that certain of them unvoiced a following *y* or *w* (IH *'yós* > IE *hyós* > Gk. ὅς; IH *Hwes-* > IE *hwes-* > Gk. ἕννυμι)[14] and combined with a preceding voiceless

[11] Brugmann, KVG 82.

[12] Greek Adjectives in -αιος, to appear in CP 36 or 37.

[13] On which see Greek Adjectives in -αιος.

[14] Sapir, LANG. 14.269–74; Sturtevant, Pronunciation of Greek and Latin² 73 and fn. 43, Greek Adjectives in -αιος; Austin, LANG. 17.91.

stop to form an aspirate (IH *sistːáti* > IE *sistʰáti* > Skt. *tíṣṭhati*, Lat. *sistit* : IH *stáːti* > IE *stắti* > Gk. *ἵστησι*, Lat. *stat*—cf. *stās*).[15]

At any rate if IE *ə* resulted from the vocalization of laryngeals, we must give up Möller's and Sapir's opinion that one of the laryngeals was a glottal stop of palatal color and another a glottal stop of velar color; it would be as sensible to speak of vocalizing a *t*. The identification of one or more of the lost consonants as glottal stops was originally hit upon in the process of tracing Indo-European, Semitic, and Hamitic to a common origin, and even if this hypothesis were established it would not necessarily follow that the most conservative of the Hamito-Semitic languages have preserved the original phonetic character of these phonemes or of either of them. If we should find convincing evidence that the first two laryngeals sometimes had syllabic function, there would be no serious difficulty in assigning them a different phonetic character. Nevertheless glottal stops are so common in the languages of the world and are so readily lost that one is inclined to assign that value at least to the first Indo-Hittite laryngeal.

Probably such phonetic arguments as we have been citing against the theory that IH *A* was vocalized between non-syllabics and thus formed the source of IE *ə* cannot be conclusive; almost anything is possible in the way of substituting one sound for another. We must examine the actual evidence. In fact one positive argument has been advanced[16] in favor of just this thesis. I think, however, that a careful examination of it will prove just the opposite.

Four Hittite verbs show *ḫḫ* between non-syllabics and their cognates give evidence for IE *ə* in similar position. The Hittite verbs and their cognates are these: Hitt. *sanḫḫzi* 'approaches, attacks, asks for, tries' : Skt. *sanitṛ-* (RV) 'giver, gainer', aorist *asāniṣam*, part. *sātás*; Hitt. *parḫḫzi* 'drives, rides' : Gk. *περάω* 'cross'; Hitt. *tarḫḫzi* 'controls, conquers, can' : Lat. *intrāre*, Skt. *tárati*, *tiráti* 'passes', agent noun *taritṛ-* (RV), part. *tūṇás*, *tūrtás*, aorist *átārīt*, *átārima* (RV); Hitt. *walḫḫzi* 'strikes, attacks' : Lat. *volnus*, Lith. *velýs* 'dead', Gk. *ἀλίσκομαι*, *ἑᾰ́λων* (< **ϝhϝαλων*) 'be captured', *ἀνᾰλίσκω* (< **ἀνα-hϝαλίσκω*) 'use up, spend'.[17]

The evidence on the pronunciation of the Hittite forms listed above is fairly complicated and it deserves a fuller treatment than it has yet had in print. The commonest spellings are *ša-an-aḫ-zi*, *pár-aḫ-zi*, *tar-aḫ-zi*, and *wa-al-aḫ-zi*, and a similar orthography is usual also in such forms as *ša-an-aḫ-mi*, *ša-an-aḫ-ta*, *pár-aḫ-ta*, *tar-aḫ-mi*, *tar-aḫ-ta*, *wa-al-aḫ-mi*, *wa-al-aḫ-ta*. The significant fact

[15] F. de Saussure, BSL 7.cxviii; A. Cuny, Rev. de Phonétique 2.118–20; Kurylowicz, Ét. indoeuropéennes 1.46–50; Sturtevant, LANG. 16.180–2, 17.1–11.

[16] Couvreur, De Hettitische *ḫ* 217–21; cf. H. Pedersen, Hittitisch 180.

[17] W. Petersen, JAOS 59.189 fn. 25, maintained that Hitt. *sanḫḫ-*, *parḫḫ-* and *tarḫḫ-* do not correspond to Skt. *seṭ*-verbs. He said that 'Skt. *sani-* occurs only in *sanitur* "outside of, without", which shows no semantic connection with Hitt. *sanḫḫ-*.' He must have consulted p. 1141 of the Monier-Williams dictionary instead of p. 1140 under *san-*, where he would have found several indubitable *seṭ*-forms. He derived Skt. *tárati* from a 'monosyllabic root' and neglected the *seṭ*-forms cited above. He grudgingly admitted *seṭ*-forms in Gk. *περάω* and Goth. *faran*, but found the existence of such forms as Skt. *piparti* somehow comforting. He did not mention Hitt. *walḫḫ-*.

here is that the sign preceding *aḫ* is *an, al, pár,* or *tar* rather than *na, la,* or *ra;* for it is customary to write an interconsonantal vowel with the preceding consonant whether or not it is repeated with the following consonant.[18] Where the material is so abundant and so nearly consistent[19] we must conclude that there was no vowel, or, at the very most, only a reduced vowel between *ḫ* and the preceding consonant. This conclusion is confirmed by numerous forms of the same paradigms where the ending or the suffix began with a vowel, e.g. *ša-an-ḫa-an-zi, ša-an-ḫu-un, ša-an-ḫi-iš-ki-iz-zi, pár-ḫa-an-zi, pár-ḫi-ir, pár-ḫi-eš-kán-zi, tar-ḫu-un, wa-al-ḫa-an-zi, wa-al-ḫi-iš-ki-u-wa-an.* Still more important are certain forms of *sanḫḫ-*, namely *ša-aḫ-ḫu-un* (KBo. 5.9.1.20) = *ša-an-ḫu-un, ša-a-aḫ* (KUB 17.10.1.25) = *ša-an-ḫa, ša-ḫi-iš-ki-iz-zi* (KUB 8.56.1.4) beside *ša-an-ḫi-iš-ki-ši;* unless we dismiss these as mere mistakes we must suppose that the *n* was lost or somehow reduced before *ḫḫ;* and if so we cannot assume even a reduced vowel between the two consonants.

There is an alternative orthography, namely *ša-an-ḫa-zi, ša-an-ḫa-mi, ša-an-ḫa-at-ti, ša-an-ḫa-at-tin, pár-ḫa-zi,* etc. Some scholars have concluded that[20] these forms are trisyllabic, being thematic variants of non-thematic *sanḫḫzi,* etc. If so one may suppose that 3d pl. *ša-an-ḫa-an-zi* and *ša-an-ḫi-ir,* which might belong to either type of conjugation, were largely influential. It is quite possible, however, that these are just variant spellings for *ša-an-aḫ-zi,* etc.;[21] cf. the reflexive particle written *-az* or *-za* and spellings of the *-ske/a-* suffix like *az-zi-ik-ki-iz-zi* (= *azkizzi*), *ḫur-za-ki-iz-zi* (= *ḫurzkizzi*), and *zi-ik-ki-iz-zi* (= *zkizzi*). Whatever we may think of the possible vowel after the *ḫḫ,* these forms add still further support to the opinion that in *ša-an-aḫ-zi* there was no vowel before the *ḫḫ.*

How strong this evidence really is becomes apparent if we contrast it with the following: the adverb *ar-ḫa* 'out, away, forth, far away' has beside it *a-ra-aḫ-za* 'around, outside', *a-ra-aḫ-za-an-da* 'around', and *a-ra-aḫ-zé-na-aš* (acc. *a-ra-aḫ-zi-na-an,* dat. *a-ra-a-aḫ-zé-e-ni*—KUB 13.3.3.16) 'foreigner, neighbor'. The obvious etymological connection of these words suggests that we pronounce without a vowel between *r* and *ḫ,* since that is the consistent spelling of *arḫa,* by far the commonest of them,[22] but all the others are written with initial *a-ra-aḫ-* instead of *ar-aḫ-* and in one instance we find *a-ra-a-aḫ-*. In this case there may well be doubt about pronouncing *arḫ-*, but any who adopt that pronunciation must, so much the more, pronounce *sanḫḫ-*, etc.

Couvreur is, then, presenting only an obvious inference when he finds in *sanḫḫzi* the same stem form as in Skt. *sanitṛ-*; although he does not explicitly say so, he virtually assigns our four verbs to the same present class as Skt. *ániti* 'breathes', *vámiti* 'vomits', etc. Shall we then decide after all either that IH dissyllabic *senxti* remained a dissyllable in Hittite, while the laryngeal was vocalized in pre-Indo-European, or that the Indo-Hittite word was trisyllabic

[18] See HG 46 f.

[19] The only exceptions I have noticed are: *ša-na-aḫ-ti* (KBo. 4.14.2.61, 65, 71) *ša-na-aḫ-ta* (KVB 19.67.2.10), *wa-la-aḫ-zi* (KBo. 3.23.1.6, 7, 4.9, 10).

[20] So Holger Pedersen, Hittitisch 127.

[21] So HG 143.

[22] So HG 88.

(with syllabic *x*), which became dissyllabic in Hittite? In either case we should expect to find in Hittite either zero or *ḫ* where IE *ə* represents *γ*, and zero where IE *ə* represents *'* or *ʾ*.

The fourth laryngeal occurs in the verb *weḫ-*, *waḫ-* 'turn', whatever one thinks of the etymology I suggested a few months ago;[23] for the word and its derivatives show single *ḫ* between vowels more than twenty times without any instances of *ḫḫ* as far as I know. The reduced grade forms with vowel after the *ḫ* (pl. *wa-ḫa-an-zi*, imper. pl. *wa-ḫa-an-du*, part. *wa-ḫa-an-za*, verb. noun *wa-ḫa-an-na*, *wa-ḫa-an-n[a-aš]*) cannot be said to contain *aḫ* = IE *ə*, since the latter would be lost in this position in all Indo-European languages. The very common causative verb *waḫnu-*, however, shows *aḫ* before a consonant, and in this position IE *ə* would be expected.

The only other Hittite word I know of in which reduced grade of IH *eγ* seems probable contains *a* alone. Hitt. *assus* 'favorable, profitable, good' has long been identified with Gk. *ἐύς*, *ἠύς*, neut. *ἠύ* 'good, brave, noble'.[24] It is evident at a glance that the etymology can be maintained only if the initial vowel of *assus* is a reduced-grade vowel beside the zero-grade of Skt. *su-* 'well-' and Gk. *ὑγιής* 'healthy'. Even before the discovery of Hittite, the long vowel of Gk. *ἠύς* had been recognized as original and the inference had been drawn that the *ε* of *ἐύς*, *εὖ*, and *εὐ-* must represent IE *ə*.[25] Since only a laryngeal can account for IE *ē* : *ə* and since the Greek smooth breathing shows that the IE stem was *ēzu-* rather than *ēsu-*, we must infer IH *'éγzu-*; the only other laryngeal that would not have converted *e* to *a*, namely *'*, would, if it stood before the sibilant, have yielded IE *ēsu-*, and that would have yielded Gk. **ἠύς*.[26]

I have shown[27] that Hitt. *eshar* and Gk. *ἦαρ* 'blood' come from IH *'éγzγ*. For the genitive we must assume IH *'ʋγznés*, and this should yield Hitt. **asnas*, parallel with *assus* from IH *'ʋγzéu-*. Then **asnas* became *esnas* (*e-eš-na-aš*—KBo. 3.1.2.47) under the influence of nom.-acc. *esḫar*. It is not necessary to assume a metathesis of *-γz-*, as I did formerly, and we now see that such a metathesis is impossible after *ə*. The truth is that while IH *-eγz-* and *-oγz-* yielded Hitt. *-esḫ-* and *-aṣḫ-*,[28] IH *-ʋγz-* yielded Hitt. *-ass-*.

If IH *γ* after *ʋ* was lost in Hittite before other consonants than *z*, it may well have been reintroduced in Hitt. *waḫnu-* 'cause to turn' by analogy. More evidence upon the Hittite treatment of IH *ʋγ* before a consonant is sadly needed.

In any case, there is no reason to doubt that *waḫanzi* 'they turn' represents the regular development of IH *wʋγénti* (except for the usual substitution of *-anzi* for *-enzi*). And this stands in sharp contrast to *sanḫḫzi*; if Hittite preserves IH *x* as a consonant between a semivowel and a mute, it would be strange to find the corresponding voiced phoneme, *γ*, developing into a syllabic between a semivowel and a vowel. We should expect IH *uγénti* to appear in Hittite as **uḫanzi*. This would harmonize closely with *uš-ša-ni-ya-zi*, *uš-ni-ya-zi* 'he

[23] LANG. 16.82.

[24] Friedrich, IF 41.370 f.; Kurylowicz, EI 1.30, 74.

[25] Schulze, QE 37; Sommer, Gr. Lautstudien 5–8.

[26] Sturtevant, LANG. 16.81–7.

[27] LANG. 16.86.

[28] Sturtevant, LANG. 15.153 fn. 29, 16.84, 86.

offers for sale, sells', 2d pl. *uš-ša-ni-ya-at-te-ni*, pret. *uš-ša-ni-ya-at*, 1st pl. *uš-ša-ni-ya-u-e-en*, imper. *uš-ša-ni-ya-ad-du* beside *wa-a-ši* 'he buys', 2d sg. *wa-aš-ti* (presumably from IH *wostːa* and *wose* respectively). The actually quotable *waḫanzi* is parallel to *wa-aš-ša-an-zi* 'they clothe' beside 2d pl. *ú-e-eš-tin*, midd. 3d pl. *ú-e-eš-ša-an-ta*. The only possible escape from the conclusion that *a* in *waḫanzi* and *waḫnu-* represents an Indo-Hittite reduced vowel is to assume that it is due to the analogy of such a series as *e-eš-zi* 'sets, sits, performs' : *a-ša-an-zi* : *aš-nu-zi*, and probably all scholars will prefer to see the same causes at work in the two parallel sets of forms. Besides, if one set were to be regarded as an analogical echo of the other, there would be no way of deciding which one was primary.

The reduced-grade forms of bases with the first laryngeal after a vowel harmonize with the development that we have already seen in Hitt. *assus* from IH *'ɔgzéu-*. We have just cited Hitt. *eszi* : *asanzi* : *asnuzi* 'set'. This is surely the verb that appears in the middle in Skt. *āste*, Gk. ἧσται 'sits'; the same analogical extension of the full-grade vowel to the middle appears in Hitt. *e-ša*, *e-ša-ri*, pret. *e-ša-at*, *e-ša-ti* 'remain', with *-za* 'seat oneself'. We must, therefore, set up IH *'ɔ'sénti* as the source of Hitt. *asanzi* and also *'ɔ's-néu-* if Hitt. *asnuzi* is an inherited form. Similar are *a-ap-pa-an-zi* 'they take' (IH *'ɔ'pénti*) beside *e-ip-zi* 'he takes' (cf. Lat. *apīscor* 'gain, attain' beside *coēpi* 'I began'); and *a-ku-wa-an-zi*, *a-ku-an-zi* 'they drink, cause to drink' (IH *'ɔ'kuénti*) beside 3d sg. *e-ku-zi* (cf. Lat. *aqua* beside OIcel. *ǣger* 'sea'). Clearly IH *ɔ'* yields Hitt. *a* rather than zero.

Since both full-grade *a* and reduced grade *ɔ* appear in Hittite as *a*, it is impossible to distinguish between these grades in bases containing the second laryngeal, but Indo-European cognates often give us a valuable hint. Hitt. acc. *ma-ak-la-an-ta-an* 'thin, lean' probably has the ablaut grade of Gk. μακρός 'long' and Lat. *macer* 'lean' rather than that of Doric μᾶκος 'length'; if so the first vowel represents IH *ɔː*. Hitt. *istanta(e)-* (pret. *iš-ta-an-da-a-it*, *iš-ta-an-ta-it*, 1st sg. *iš-ta-an-ta-nu-un*) 'tarry, delay' probably goes with Goth. *standan* 'stand' rather than with Goth. *stoþ* 'he stood', and thus its first *a* represents IH *ɔː*.[29]

The *ḫi*-conjugation verbs with stem in *a* no doubt have full grade in the singular active; Hitt. *da-aḫ-ḫi*, 'I take', 2d sg. *da-at-ti*, *ta-at-ti*, 3d sg. *da-a-i* has a stem-form corresponding to that of Lat. *dās*, *dat*, *dā*, and Arm. *tam* 'I give'.[30] The reduced grade of the same stem appears, I still think, in 1st pl. *tum-me-ni*,[31] although I should now have to trace this back through IH *dumés* (or *dumén*) to Pre-IH *dɔːwés* (or *dɔːwén*). Holger Pedersen's[32] contention that the Hitt. 1st pl. endings *-meni* and *-men* are inherited plural endings and the far more common *-weni* and *-wen* inherited dual endings is unconvincing, since it does not explain their distribution: the former after stem-final *u*, the latter after all other stem finals. His opinion that *tummeni* shows zero grade (originally **dmés* or **dmén*) is quite untenable, since all Hittite verbs with consonant stems show the endings

[29] On the etymology, see Sturtevant, LANG. 14.72 f.

[30] Sturtevant, LANG. 16.276 and fn. 9, Greek Adjectives in *-αιος*, CP 36 or 37.

[31] AJP 50.360–9, TAPA 60.33 f., LANG. 7.170, HG 114–6.

[32] Hittitisch 89, 185 f.

-weni and *-wen* and without the development of anaptyctic vowel; e.g. *e-šu-u-en*, *e-šu-en* 'we were', *a-tu-e-ni* 'we eat', *e-ip-pu-en* 'we took', *ḫar-u-e-ni* 'we have', *šar-ni-in-ku-e-ni* 'we make restitution', *pu-nu-uš-šu-u-en* 'we asked', *še-ik-ku-e-ni* 'we know', *e-ru-u-en*, *ir-u-en* 'we arrived', *wa-a-ku-e-en* 'we bit'. The *u* of *tummeni*, however, is due to the influence of the following consonant; in other positions we should expect *a* to correspond with IE *ə*, as in *assus*, *asanzi*, *appanzi*, *akwanzi*, *maklanza*, *istanta(e)*-, etc. Perhaps we should recognize this in 2d pl. *da-at-te-ni*, *da-at-te-en*, *da-at-tin*, infin. *da-an-na*, *da-a-u-wa-an-zi*, part. *da-an-za*, *da-a-an*, *da-an-te-eš*, etc. It must be admitted that none of these forms can be inherited members of the perfect system, to which *dahhi*, *datti*, and *dai* belong. The old 2d pl. perf. is probably represented by Skt. *dadá*, while the infinitives are old verbal nouns and the participle in *nt*, as well as the 3d pl. *da-an-zi*, belongs properly to the present-aorist system.

In bases containing the third laryngeal, as in those containing the second, we should expect full grade and reduced grade to take the same form in Hittite. Probably, therefore, Hitt. *pa-aḫ-ḫu-wa-ar* 'fire' comes from IH *pɔxwór* (cf. the initial syllable of Gk. ὕδωρ) and the dat. *pa-aḫ-ḫu-e-ni* from IH *pɔxwéni*, although the commoner nominative-accusative *pa-aḫ-ḫur* probably comes from IH *páxur*. Similarly Hitt. *la-aḫ-ḫu-tin* 'pour ye' may well come from IH *lɔxuté* while the 3d sg. *la-a-ḫu-i* represents IH *lóxwe*; and 3d sg. *la-ḫu-uz-zi* (KUB 24.7.2.13) represents IH *láxuti*. Just so the present suffix *-aḫḫ-*[33] may well have reduced grade in the plural and the rare middle forms (e.g. *šu-up-pi-ya-aḫ-ḫa-an-zi* 'they make clean', *šu-up-pi-ya-aḫ-ḫa-ti* 'he was cleansed').

It appears then that we have in Hittite reduced grade of the heavy bases in such forms as *waḫanzi*, *waḫnuzi*, *assus*, *asanzi* 'they set', *appanzi*, *akwanzi*, *maklanza*, *istantait*, *tummeni*, and, with more or less probability, in *datteni*, *paḫḫuwar*, *paḫḫweni*, *laḫḫutin*, *suppiyaḫḫanzi*, etc. If this is true, it follows that in Hitt. *sanḫḫzi*, etc., there is complete loss of the vowel before the laryngeal. Either *ḫḫ* was restored before consonantal endings in these verbs by the analogy of the 3d pl. and other forms whose endings begin with a vowel, or else we must hold that IH *x* remained in Hittite in the position between a semivowel and a mute. Until we find evidence for the loss of *x* between consonants in Hittite the latter alternative seems more probable.[34]

If *sanḫḫzi*, etc., show zero grade of the second syllable of the base, we should expect to find in Hittite some similar forms from bases containing other laryngeals, and a few such can be cited. The clearest case is the durative *zi-ik-ki-iz-zi* beside *da-a-i* 'places'; the durative stem must certainly be analyzed *t-ske-*. Less well attested are pret. *ti-it-nu-ut* (KUB 14.1.2.40, 43) and *ti-it-nu-uš-ki-it* (KUB 14.1.2.33) beside frequent *tittanu-* 'cause to stand'; pret. 1st pl. *tar-nu-en* (KBo. 3.60.3.7) beside *tar-na-aḫ-ḫi*, *tar-na-a-i* 'put in'; and pret. 1st pl. *e-eš-šu-u-en* beside *e-eš-ša-aḫ-ḫi*, *e-eš-ša-i* 'make, do, perform, prepare'.

[33] Sturtevant, LANG. 14.239–44.

[34] Evidence for loss of Hitt. *ḫ* between consonants has been alleged in gen. *esnas* from *esḫar* 'blood', but see above p. 186.

THE GREEK ASPIRATED PERFECT

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[An argument against Sturtevant's interpretation of the aspiration by laryngeals in the IH personal endings (LANG. 16.179–82); summarized in the last section.]

Many Greek verbs with roots ending in non-aspirated palatal and labial stops have perfects with aspirated stops, in the active and in the third plural (non-periphrastic) indicative medio-passive; and this peculiarity has been explained as the product of analogy, since all palatal and labial stems would have aspirates before the *θ* which is in several of the personal endings. But E. H. Sturtevant has recently[1] presented the view that this aspirate is to be attributed to the effect of a laryngeal sound in the IH personal ending of the first person singular active and in that ending of the third plural which contained an *r*, as in Latin 3d pl. *vīdēre*. His view may fairly be examined further, since a phenomenon which is found in only one of the IE branches must not rashly be attributed to the primitive speech, if a reasonable explanation can be found within the branch itself.

The only non-Greek example of this phenomenon that is propounded, is the isolated Avestan form *hušxᵛafa* 'he has slept', to the (normalized) Avestan root *xᵛap-* = Skt. *svap-*, a root found widely in the IE branches. The *-f-* for radical *-p-* had given rise to comment before the laryngeals were discovered, and explanations were suggested; but Sturtevant finds a new interpretation in making the *-f-* a derivative of *-ph-*, in which the aspiration of the final radical consonant was induced by the laryngeal evidenced in the Hittite personal ending, and offers the Avestan word as corroboration of his view on the aspirate in the Greek perfects. Now the extant forms of this root in Avestan[2] are the present stem *xᵛafsa-* (2d sg. imv. *xᵛafsa*, 2d pl. *xᵛafsata*) and a participle *xᵛaptō*, in addition to another present stem *xᵛabda-*, with its causative *xᵛabdaya-*. There is also the substantive *xᵛafna-* 'sleep', of more frequent occurrence than the verb. The *-f-* in *xᵛafsa-* and in *xᵛafna-* is the regular product of *p* before a consonant; for the voiceless stops, when anteconsonantal, became voiceless spirants in Iranian.[3] Thus the present stem **su̯ep-sk̂e-*, with the inchoative suffix, became *xᵛafsa-*, and the substantive **su̯epno-* (Skt. *svapna-*) became *xᵛafna-*. The participle *xᵛaptō*, with generalized strong grade of the root, shows the regular reversion of *f* to *p* before *t*.[4] The derivative stem *xᵛabda-*, with its causative, both used only in compounds, has a dental suffix *-de-* or *-dhe-*,[5] which removes it from the same phonetic group, so far as its final radical is concerned. Thus there is no evidence for the persistence of original **xᵛap-* in Iranian; in the usual present

[1] LANGUAGE 16.179–82 (1940).

[2] Chr. Bartholomae, Altiranisches Wörterbuch, cols. 1862–3 (1904).

[3] H. Reichelt, Awestisches Elementarbuch §42.4; except after spirants.

[4] Reichelt, op.cit. §45.

[5] Bartholomae, Gdr. d. iran. Philologie 1.84 §151 end.

stem and in the common substantive an *-f-* developed regularly, and it would not be astonishing if this passed into the perfect stem.[6] The plural of the perfect, moreover, would have been **hušhufma*, if it has the regular zero-grade, from **su-šup-ma*,[7] which is another point of support for the *-f-*. The later dialects also testify to the *-f-* as normal in this root: cf. the present infinitives Pahlavi *x*^{v}*aftan*, *x*^{v}*afsēnītan*, Modern Persian *xuftān*, *xuspīdān* (with *-sp-* from *-fs-*), S. Bal. *vafsag*.[8] The support of this form for the proposed origin of the Greek aspirated perfect is therefore illusory; the retention of the *-p-* in this Avestan perfect would be more remarkable than its analogical replacement by *-f-*, after the other forms of the root.

The aspirated perfect therefore belongs solely to Greek, to the forms of which I now turn. Sturtevant attributes the aspirate in the active to the effect of a first person ending beginning with a laryngeal, causing an aspirated stop in that form: this, in combination with an aspirate of similar origin in the third plural medio-passive, was in his view the source of the aspirate in the entire perfect system active. But, as Sturtevant admits, there are no aspirated perfects active in Homer, and if the aspiration is an inheritance from the pre-speech, it comes from an alternative or collateral tradition. Now of the non-aspirated active perfects Homer has 6 from roots in [k], 9 from roots in [g], 6 from roots in [p], a total of 21,[9] of which 6 occur in the first singular indicative. A number of these have the old intransitive or middle meaning of the perfect active, and some such perfects were later supplanted by aspirated perfects with active transitive meanings. The old forms with the original meaning did NOT have the aspiration. When we find that later forms with the aspirated stop have the later transitive active meaning, it seems likely that the aspirated forms are not original, but are the product of some influence within Greek itself.

As Sturtevant himself says, these aspirated perfects appear in palatal and labial stems, but not in dental stems: thus there are no *θ* perfects to *d*-stems (there seem to be no *t*-stems with perfects). As he himself says also, the basis for a generalization of the aspiration was lacking in dental stems. For *κ*, *γ*, and *χ* assumed one and the same phonetic value in combination with *μ*, *σ*, *τ*, *θ*: *-γμ-*, *-ξ-*, *-κτ-*, *-χθ-*. Likewise *π*, *β*, *φ* with the same sounds yielded *-μμ-*, *-ψ-*, *-πτ-*, *-φθ-*. But dentals behaved differently, yielding respectively *-τμ-* *-δμ-* *-θμ-*; *-σσ-* > *-σ-*; *-στ-*; *-σθ-*: from which there could be no basis for the generalization of *θ*. The coincidence of the extension of aspirates in the perfect, with the classes of stops which have in their phonetic development a variety which is aspirated, to the exclusion of that class which does not offer such a variety, is

[6] Bartholomae, AiW col. 1863.24–5.

[7] W. Caland, GGA 1893.398; cf. 1st pl. pf. *didvīšma*, to root *ϑbaēš-*. But H. Pedersen, KZ 39.253 (1906), thought that the aspirate might somehow be an inherited feature of the perfect.

[8] Bartholomae, AiW col. 1863.19–20.

[9] *δέδορκεν* +, *ἔοικα* +, *λεληκώς* +, *μεμηκώς*, *τέτηκα*, *πεφρίκασι* +; *ἄνωγα* +, *ὄργας* +, *κεκληγώς* +, *ἀνέῳγε* +, *πέπηγεν* +, *πεπληγώς* +, *ἔρριγα* +, *τετρίγει* +, *πεφευγότες* +; *δεδουπότος*, *ὄλπα* +, *κεκοπώς*, *λέλοιπεν* +, *ὄπωπα* +, *σέσηπε*. At least two-thirds of these have intransitive or middle meanings, capable of taking an accusative only as 'inner object', if at all.

striking. And this is reinforced by two other items, which seem to have been overlooked in previous discussions.

First, the ξ and ψ of Attic quite certainly were not [ks], [ps], but [k's], [p's], as is shown by the writings in the Old Attic alphabet, which had no single characters for ξ and ψ. This alphabet used χσ and φσ respectively, as in εδοχσεν = ἔδοξεν and φσεφισμα = ψήφισμα,[10] which shows that the prior consonant in these clusters was aspirated. There is evidence also for the same pronunciation in some localities close to Attica; but the Ionic alphabet, which had its single characters ξ and ψ, can throw no light on this point—yet is not evidence to the opposite effect! Thus the palatal and labial verbs had (sigmatic) futures and aorists which contained the aspirate, just as much as did the forms with θ suffixes. It happens that all the verbs with aspirated perfects have sigmatic aorists, except four or five, some of which have a sigmatic future. With this pronunciation in Attica, of an aspirate before the [s], and the same in some portions of the Ionic-speaking region, perhaps in all of it, there is a strong basis for an analogical extension of the aspirate in this region, which is just where the aspirated perfect active is found.

The second point has to do with the middle or passive forms. These are forms of the 3d pl. perf. and plpf., with an aspirated stop before the personal endings -αται and -ατο, from *-n̥tai -n̥to*. The examples, so far as I have been able to trace them, are of 3 verbs in Homer and 5 in Herodotus, of which one is found in Thucydides and Xenophon (I omit prefixes):

τρέπω: τετράφαται Il. 2.25, 62; τετράφαθ' Il. 10.189.

ἔργω ἐέργω: ἔρχαται Il. 16.481, Od. 10.283; ἔρχατο Il. 17.354, Od. 9.221, 14.73; ἐέρχατο Od. 10.241.

ὀρέγω: ὀρωρέχαται Il. 16.834; ὀρωρέχατο Il. 11.26.

τρίβω: τετρίφαται Hdt. 2.93.

ἑλίσσω: εἱλίχατο Hdt. 7.76, 90.

μίγνυμι: μεμίχαται Hdt. 1.146.

σάττω: ἐσεσάχατο Hdt. 7.62, 70, 73, 86.

τάττω: τετάχαται Thuc. 3.13.3, Xen. Anab. 4.8.5; ἐτετάχατο Hdt. 7.70, Thuc. 5.6.4, 7.4.6.

It is again observable that the aspirated forms do not extend to dental stems, where the final stop of the root became [s] (and not an aspirate) before a suffixal θ. Unlike the aspirated actives, however, these aspirated middles are found in Homer, even though only in three verbs: but in every one of these three the sigmatic aorist also is found in Homer, giving the same additional basis for analogical extension that we have remarked in the active. The fact that the aspirated middles are apparently earlier, may be due to a closer association of this form with the other aspirated forms, where the aspirate is induced by a middle or passive ending: cf. imv. τετράφθω (Il. 12.273), inf. τετράφθαι, 2d pl. ind. τέτραφθε, aorist inf. pass. τραφθῆναι (Od. 15.80).

[10] K. Meisterhans, Grammatik der attischen Inschriften² §2.3.d-e. Cf. the writing ναhσιο = Ναξίου on the Nicandra inscription of Naxos, and ναχσιος = Νάξιος on other Naxian inscc. Cf. also Sturtevant, Pronunciation of Greek and Latin² §98.

This early aspiration in the 3d pl. medio-passive may have acted directly on the 3d pl. active, causing an aspirate there as the actual starting point in the active, as Buck suggests.[11] This would be, however, only another factor to be added to those already described.

With regard to this form, where the personal ending is preceded by an aspirated stop, Sturtevant's theory is that the aspiration was caused by a laryngeal consonant in the ending, and that this ending was later replaced by endings from the thematic tenses, the aspirate still remaining. Against this there is the inherent improbability that when the peculiar perfect ending was replaced by the usual ending, the peculiarity produced by the replaced ending should remain. Further—and I now present my second point, previously announced—there ought to be similar aspiration in dental stems, if any change takes place at all. But astonishingly, there is in a few verbs an extension of δ (not of θ) even in Homer: ἐρράδαται (Od. 20.354) to ῥαίνομαι; ἀκηχέδατ' (Il. 17.637) to 1st sg. ἀκάχημαι, present ἀκαχίζω; ἐληλάδατ' (Od. 7.86) to 3d sg. ἐλήλατο, present ἐλάω ἐλαύνω. This starts, of course, from such forms as ἐρηρέδαται (Il. 23.284, 329), plpf. ἐρηρέδατ' (Od. 7.95), to ἐρείδω; cf. later ἐσκευάδατο (Hdt. 7.62, 86), etc.[12] This goes quite contrary to Sturtevant's hypothesis, which denies the adequacy of analogical influences to alter the final radical consonants.

If we are to return to the analogical origin of the aspirate in the perfect, we ought to find similar analogies working in the tense and affecting the dental consonants as well as the palatals and the labials. And we do find them. We have already seen the Homeric forms with an analogical extension of δ in the 3d pl. medio-passive. Others are to be noted in the active. The dentals, so far as regular phonetic development is concerned, remain before μ. We find in Homer ἴδμεν (20 times), for which Attic has ἴσμεν, after the 2d pl. ἴστε (4 times in Homer); it is this same 2d pl. which has induced the prior σ in ἴσασι(ν) (18 times in Homer). Similarly, despite such forms as 1st pl. act. plpf. ἐπέπιθμεν (Il. 2.341, 4.159, 14.55), Homer has by analogy λελάσμεθα (Il. 11.313), to the root λαθ- in λανθάνω. Thus even in Homer we find the working of analogical influences on the final radical in the perfect, the effects being away from the aspiration, where dentals are involved. Why then have recourse to IH laryngeals to produce the aspirated palatals and labials?[13] Analogy operated in dental-stem perfects.

Summary of the points of this discussion:

I. The *-f-* of Avestan *hušx^{v}afa* was a special Iranian development, irrelevant to the present problem.

II. The perfect active of these verbs in Homer had non-aspirated stops and had the original (intransitive) meaning of the IE perfect active; the aspirated perfects active were later in occurrence, and had the later transitive meaning.

[11] Buck, Comp. Gram. of Greek and Latin §405.

[12] An apparent extension of β and γ in some inscriptional dialect-forms may be artificial; cf. Ed. Schwyzer, Griechische Grammatik 772.44–7.

[13] For a gathering of the materials and an interpretation by analogical influences, see K. Brugmann and A. Thumb, Griechische Grammatik[4] 375; Buck, Comp. Gramm. of Greek and Latin §405; Schwyzer, Griech. Gram. 769–72.

III. The aspiration is found in palatal and labial stems, which in sandhi (before θ) developed the aspirate as a variety of the radical consonant; but not in dental stems, where sandhi did not produce the aspirate as a variety of the radical consonant.

IV. The aspiration of palatals and labials was present not only before the θ of personal endings, but before the σ of the aorist and the future; which gives a wide basis for analogical effect.

V. The aspirated 3d pl. medio-passives stood in close relation to the θ endings, which were medio-passive; these were therefore of earlier occurrence (in Homer) than were the aspirated actives.

VI. The dentals of the stems were subject to analogical changes, to [s], with the same basis for analogical change as the palatals and the labials; there was also an early analogical change to [d], in Homer.

VII. There is accordingly ample basis for an analogical origin of the aspirate in Greek perfects; and as the aspirate in perfects is limited to Greek, where it is for the most part of late origin, and is in fact found only in a small part of the Greek field, there is no reason to seek its source in lost endings of the pre-speech.

A PHONEMIC INTERPRETATION OF VISARGA

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[The existence of *visarga* as a phonetic reality has been both accepted and denied. Evidence in the Prātiśākhyas points to the phonetic existence of several spirants written *ḥ*. These spirants, *jihvāmūlīya* and *upadhmānīya*, are shown to be allophones of *visarga*, which in turn is interpreted as a subclass of the *s* phoneme.]

The term *visarga*[1] refers to the phonetic state which a Sanskrit etymological *s* assumes in a certain phonetic environment; namely, in absolute final or pausa position, and in word final followed by a voiceless consonant. It is usually transcribed by *ḥ*. The phonic value given to this symbol by Western scholars, if they attempt to pronounce it at all, is usually [h]. Some scholars have denied the existence of any phonic value for *visarga*.[2]

The native grammatical treatises, the Prātiśākhyas,[3] and Pāṇini, classify *visarga* with the spirants, along with *ś*, *ṣ*, and *s*.[4] Also included in the spirant (*ūṣman*) category are two other sounds, the *jihvāmūlīya* (lit. 'tongue-root') and *upadhmānīya* (lit. 'breathed-at') spirants.[5] The phonetic existence of these two has also been doubted.[6] It is the purpose of this paper to show that *visarga*

[1] *Visarga* is apparently a short form for *visarjanīya*. It does not figure in the Prātiśākhyas (cf. Wackernagel, Aind. Gr. 259, for the history of the use of the term). It means 'ender, terminator, terminal sound' (< *sṛj* 'let go'). There is also a *visarga* of *r* and one of *n* (cf. AVPr. 2.28).

[2] Bollensen, ZDMG 22.632, 47.583; Benfey, Gr. 6, ZDMG 11.348; GGA 1711 (1859).

[3] The following editions of the Prātiśākhyas were used: Vājasaneyi Pr. (ed. Weber), Ind. Stud. 4.65–171, 177–331; Atharva Veda Pr. (ed. Whitney), JAOS 7 (1862); Tāittirīya Pr. (ed. Whitney), JAOS 9 (1871); Rig Veda Pr. (ed. M. D. Shastri), Lahore, 1937; Rig Veda Pr. (ed. Max Müller), Leipzig, 1869; Rig Veda Pr. (ed. Regnier), Journal Asiastique, V^e^ série, tomes 7–12 (Paris, 1856–8).

[4] However, the natives are not in complete agreement as to which sounds constitute the *ūṣman* category. The number is four in the VPr. (8.22), six in the TPr. (1.9), seven in the AVPr. (1.31: not specifically mentioned but implied throughout the text and commentary), eight in the RVPr. (1.10). *Visarga* is not included in the *ūṣman* category in the TPr. (1.9) although it tells us (1.12) that *ūṣman* and *visarga* are voiceless (*aghoṣa*). The Pāṇinīya Śikṣā 15 (Yaj. recension, ed. Weber, Indische Studien 4.345–60) includes *visarga* in the *ūṣman* category. The articulation of the spirants is described in detail at RVPr. 13.3, RVVyāk. intro. 2, Pāṇinīya Śikṣā 29 (Yaj. rec.), AVPr. 1.30–1, VPr. 1.72, TPr. 3.44–5. The commentator to RVPr. 1.11 glosses *ūṣman* by *vāyoḥ* 'wind'.

[5] Cf. fn. 4 for the Prātiśākhya references to these spirants.

[6] Whitney (note to AVPr. 2.40), 'the division of this indistinct and indefinite sound [i.e. *visarga*] into three kinds of indefiniteness savors strongly of over refinement of analysis.' Whitney, Skt. Gr. §69, 'It may be fairly questioned, perhaps, whether these two sounds [i.e. *ḫ* and *ḥ*] are not pure grammatical abstractions devised (like the long *ḷ*-vowel) in order to round out the alphabet to greater symmetry.' Beames, Comp. Gr. of the Mod. Aryan Lang. of India 1, §70 (London, 1872), 'It was at best a mere grammarian's fiction to be classed with *ṛ* and *ḷṛ* and such like inventions.' Benfey, Gr. 6, 'Die Hauchzeichen *ḥ* *ḫ* *ḥ* sind kaum, vielleicht gar nicht hörbar gewesen.' More favorably disposed are the following: Ebel, KZ 13.277, 'Der Visarga ist jedenfalls etwas mehr als ein blosser Hauch. ... Es fragt sich ob Gutturale und Labiale gar keine harte Spirans aufzuweisen haben. Ich

may be interpreted phonemically and that the *jihvāmūlīya* and *upadhmānīya* spirants function as positional (in this case phonetically conditioned) variants of *visarga*.

In pausa position the nom. sg. *kā́maḥ* 'love' (for etymological *kā́mas*) is distinguished from the voc. sg. *kā́ma* solely by the *visarga*. Relying on inscriptional and manuscript information, the *visarga* then is the only means of recognizing the nom. sg. as such. To drop the *visarga* would result in either a word other than the nom. sg. of the word for 'love' or a native-like nonsense word. Since the former takes place,[7] it can be said (graphically, at least) that *ḥ* exists as a reality in the morphological system and serves to differentiate one form from another. Further, in the absence of other distinguishing criteria such as accent, phonetic existence must be postulated for the time of the Prātiśākhyas.[8] The two sentences *devas tiṣṭhati* and *tiṣṭhati devaḥ* are phonemically alike in that etymological *s* remains before a following *t* but becomes *visarga* (*ḥ*) in pausa position. Phonetically, the sentences are unlike since *s* alternates with *ḥ*. This alternation does not disturb the meaning. It is conditioned by purely phonetic considerations. The original etymological *s* may be said to constitute a sound class, or phoneme, and its several phonetically different manifestations in certain positions may be said to be the sub-members or allophones of this phoneme. *Visarga*, then, is simply the term applied to the non-phonemic modifications of final *s* under the conditions stated above.

Visarga does not appear to be a single, simple sound, but a complex. Like other sounds in the sentence sandhi system, *visarga* may be assimilated. This assimilation, however, is not uniform. Certain authorities allow it before certain sounds and not before others:

AVPr. 2.40 *visarjanīyasya parasthāno 'ghoṣe* 'before a voiceless consonant *visarga* has the place of articulation of the following sound'. In the case of following sibilants the MSS are not consistent. The AVPr. MSS employ only *ḥ*. (Cf. Whitney, AVPr. 2.40.)

TPr. 9.2 *aghoṣaparas tasyasasthānam ūṣmāṇam* 'before a voiceless consonant *visarga* becomes a spirant having the same place of articulation as the following consonant.' TPr. 9.4 gives it as the opinion of Agniveśya and Vālmīki that *visarga* is not assimilated before the *k* and *p* series and (on its own authority at 9.2) not before *kṣ*. At 9.5 it is said, on the authority of some, to be assimilated only before a following spirant (*ūṣmapara evāikeṣām ācāryāṇām*), but (9.6) not even there according to Plākṣi and Plākṣāyaṇa. Kirste (Wiener Sitzungs-

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glaube ja, und zwar beide im Visarga, der vor ihnen die Stelle der Zischlaute vertritt.' Kirste, Ausprache des Visarga, Sitzungsber. d. phil.-hist. Klasse d. Kais. Akad d. Wiss. 121.11.18, has his own theories. Wackernagel, Aind. Gr. 1, §225, in general accepts the sounds. S. K. Chatterji, The Origin and Development of the Bengali Language 242–4, likewise accepts them as phonetic entities.

[7] By 'takes place' is meant that the Sanskrit word stock, as collected in the dictionaries from MSS and inscriptions, exhibits both *kā́maḥ* and *kā́ma*. These two forms have, according to their usage, two different functions. This in itself is no guarantee, however, that these two forms were phonetically distinct.

[8] Phonetic existence is made probable on the basis of the many references to it as an actual sound.

berichte 121.91) takes *na* as a copyist's mistake.[9] This last, however, does not affect the total picture.

VPr. 3.6 gives examples of assimilation before *c, ch, t, th.* The statement at 3.7 is of interest in showing the latitude: *visarjanīyasya thakārasaṃdhis tu saṃhitāyām na vidyata eva ato rūpodāharaṇam dīyate: kaḥ thakāraḥ, kas thakāraḥ* 'the conversion of *visarga* before a following *th* does not occur in the Saṃhitā and is therefore given as an example of *rūpodāharaṇam* (an example used to illustrate a form).' At 3.8 Śākaṭāyanaḥ requires conversion only before the *s*-series, at 3.9 Śākalya denies this and also denies assimilation (3.10) before a following *k, kh, p, ph.* Śākaṭāyanaḥ, however, requires the *jihvāmūlīya* and *upadhmānīya* spirants (3.10) in this last case.

RVPr. 4.33 f. *Visarga* remains unassimilated as approved usage, especially before velars and labials (4.38). But at 4.31 it is stated that before a voiceless stop, if this stop is not followed by a spirant, the *s* becomes a spirant with the same place of articulation. There is a double standard here.

The general picture, as derived from the treatises just referred to, is presented in the following table. (Here *ḫ* denotes the assimilation of *ḥ* to *k* and *kh*, and *ḫ* the assimilation of *ḥ* to *p* and *ph*.)

	1	2	3	4	5	6	7	8
ETYMOLOGICAL *s* BEFORE	*k*	*c*	*ṭ*	*t*	*p*	*ś*	*ṣ*	*s*
AVPr.	*ḫ*	*ś*	*ṣ*	*s*	*ḫ*	*ś*	*ṣ*	*s*
RVPr. (1)	*ḫ*	*ś*	*ṣ*	*s*	*ḫ*	*ś*	*ṣ*	*s*
TPr.	*ḫ*	*ś*	*ṣ*	*s*	*ḫ*	*ś*	*ṣ*	*s*
TPr. Ag. Val. Pl.Pl.	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*
TPr. accord. to some	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ś*	*ṣ*	*s*
VPr. Śākaṭ.	*ḫ*	(*ś*)	(*ṣ*)	(*s*)	*ḫ*	*ś*	*ṣ*	*s*
VPr. Śākalya	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*	*ḥ*
RVPr. (2)	*ḥ*	(*ḥ*, *ś*)	(*ḥ*, *ṣ*)	(*ḥ*, *s*)	*ḥ*	*ḥ*	*ḥ*	*ḥ*
TOTAL ALTERNATION	*ḫ/ḥ*	*ś/ḥ*	*ṣ/ḥ*	*s/ḥ*	*ḫ/ḥ*	*ś/ḥ*	*ṣ/ḥ*	*s/ḥ*

Before stop plus spirant and before spirant plus stop, *visarga* is suppressed; TPr. 9.1 gives this as the doctrine of Kāṇḍamāyana.[10]

As to the phonetic nature of *visarga* and its assimilated variants, the native grammarians are fairly explicit. The following descriptions are given.

(1) throat sound (*kaṇṭhya*) AVPr. 1.19, VPr. 1.81, RVPr. 1.38, 39, along with *a* and *h*. TPr. 2.46 terms *h* and *visarga* 'throat sounds' as well.[11]

[9] The passage reads *na plākṣi plākṣāyaṇoḥ.*

[10] Note that in every case a spirant of some sort is retained before an initial simple consonant. The pattern suggests school, class, or regional variants.

[11] *Kaṇṭhya* 'throat' is used to describe the *k*-series also (cf. Pāṇ. 1.1.9). Physiologically, it refers to the entire area from the velum to the bronchial tubes (Jolly, Medicin, in Grundr. d. indo-ar. Philologie u. Altertumskunde 3.10 s.v.). It is not necessary to interpret *kaṇṭhya* as Techmer's 'strictura spiritus asperi', as did Kirste (Wiener Sitzungsber. 121.11.7), for this is simply a spirant with closed glottis and arytenoid friction (Arabic *ḥa*). This last may be ruled out since a close spirant (i.e. one with friction) cannot stand in final position.

(2) non-throat sound RVPr. 13.3 *nāike kaṇṭhyasya sthitam āhur ūṣmaṇaḥ* 'some scholars reject the formation of the spirant at the *kaṇṭhya* position'.

(3) chest sound (*urasya*) RVPr. 1.38, 39, 40 and 1.18, where *h* and *ḥ* are described as chest sounds (*urasyāu*). In the RVVyāk. 3 we read *urasi visarjanīyo vā* (cf. Weber, Ind. Stud. 4.76 n.).

(4) velar sound (*jihvāmūlīya*) RVPr. 1.41, VPr. 65, 83, TPr. 2.35, 44. The zone of articulation is stated to be *hanumūlam* (lit. 'base, back, root of jaw') and the organ of articulation the *jihvāmūlam* (lit. 'tongue-root, tongue-back'). This term, *jihvāmūlīya*, is the general native term for the *k* series.

(5) position of preceding vowel (*pūrvāntasasthāno visarjanīyaḥ* or *pūrvasthāna*) TPr. 2.48. But at 2.47 the TPr. states that *visarga* has the position of the following vowel. The Pāṇ. Śikṣā 5 describes *visarga* (along with *jihvāmūlīya* and *upadhmānīya*) as joined to another sound, and sūtra 27 of the same treatise uses the term *āśrayasthānabhāvinaḥ* (Yajus-Recension) 'joined to (another) position'. VPr. 8.23 is exceptionally clear in listing *visarga* and its variants as *atha yogavāhaḥ* 'now those sounds which occur only in combination with others'.[12]

(6) labial sound (*oṣṭhya*). The *upadhmānīya* spirant is included here by the commentator to AVPr. 1.25. It is clearly implied at RVPr. 1.47 and VPr. 1.70, 80, 81. *Upadhmānīya* means literally 'a blowing upon or at'. In the labial position this can refer only to a bilabial spirant.

The striking thing about all these descriptions is the lack of agreement both as to *sthāna* 'place of articulation' and *karaṇa* 'organ of articulation'. The conclusion to be drawn is that there was apparently no single fixed position for the articulation of *visarga* or its variants. The definition of *visarga* as a sound class comprising several non-distinctive sounds will, however, satisfy the native descriptions and the orthography. In fact Kirste, in opposition to many others, was tempted to say (Aussprache des Visarga, Wiener Sitzungsber. 121.91.5), 'Etwas Gemeinsames müssen jedoch diese verschiedenen Visargas haben.'

The alternations are given in the last row of the table above. Since columns 6, 7, 8 behave like columns 2, 3, 4, one set may be cancelled out, leaving the alternations *h̲/ḥ*, *ś/ḥ*, *ṣ/ḥ*, *s/ḥ*, *ḥ/ḥ*. If we assume that the symbols in the table represent the totality of variations in the Classical Sanskrit speech area, accord-

[12] Visarga is also described as *abhiniṣṭāna* (Aśv. Gṛ. 1.15.4; Pār. Gṛ. 1.17.2; Gobh. Gṛ. 2.8.4; Āpas. Gṛ. 15.9; Hir. Gṛ. 2.4.10; AVPr. 1.42). The form *abhiniṣṭhāna* is also found frequently (cf. PW s.v.). Whitney (note on AVPr. 1.42) and Kirste (Wiener Sitzungsber. 121. 11.16 and MSL 5.92) prefer the form in *-ṣṭhāna* (< *sthā-*) and interpret it as 'Anlehnung, Hinzusetzung, Anhängsel'. PW takes it as 'ein verklingender Laut' (< *abhi* + *niḥ* + *stan*, Pāṇ. 8.3.86). And Wackernagel (Aind. Gr. 1.259) takes it as 'Kehlkopfgeräusch'. A scholiast's note to Pāṇ. 8.3.86 states: *nāma cāsmāi dadyurghoṣavadādyantarantastham abhiniṣṭānāntam* 'they give the name *abhiniṣṭāna* to this when a voiced sound comes to stand between the beginning (of one word) and the end (of another)'. Literally, *abhiniṣṭāna* means 'sounding out (from one word) towards (another)'. It is, then, a technical term referring to the close phonetic link between a terminal sound and a following initial. The scholiast's use of *ghoṣavat* 'voiced' is somewhat puzzling. He undoubtedly intends a special class of voiced sounds here since *visarga* is clearly voiceless. With the interpretation of *abhiniṣṭāna* as a term referring to final-initial relations, the AVPr. expression *visarjanīo 'bhiniṣṭāna* becomes clear: '*visarga* can also be considered as a sound which occurs at the end of a word when it (the word) is immediately followed by another word'.

ing to either regions or schools or both, it is apparent that there is a double norm for each preconsonantal position. And it is further apparent that the *ḥ* with which each of the other variants alternates is the same *ḥ* that occurs normally in absolute final position. On the basis of the native descriptions we may set up the phonic values of the variants as follows:[13]

$$[x] : \underline{h},\ [ç] : \underline{ḥ},\ [ʂ] : \underline{ḥ},\ [s] : \underline{ḥ},\ [ɸ] : \underline{ḥ}$$

Bollensen's rejection of the *visarga* as an 'inhaltsleeres Zeichen' (ZDMG 22.632) was based on the well-known dictum of Sanskrit phonology that a spirant is not tolerated in final position (i.e. absolute final position). If the *visarga*, unassimilated and in final position, had had spirantic values of the order of *ś*, *ṣ*, or *s*, the remarks of the grammarians and the practice of the MSS would be completely out of place. On the other hand, the denial of spirantic value to *ḥ* makes it difficult to harmonize the description of *visarga* as *ūṣman* or spirant. This seemingly impossible state of affairs can be made to harmonize by assuming open spirants (i.e. frictionless spirants) for *ḥ* and close spirants (i.e. spirants characterized by audible friction of considerable intensity) for the assimilated varieties. Thus, nom. sg. *agniḥ*, in the sentence *carati agniḥ* 'Agni goes', must be phonetically different from *agniś* in *agniś carati*. It is apparent that *-iḥ* cannot equal *-iś* phonetically, since *-iś* cannot stand in absolute final position; yet *ḥ* must be sufficiently similar to the close spirant *ś* to permit identification, since the two belong to the same phoneme. That the assimilated varieties were in all probability close spirants is seen from the fact that before *c*, *ṭ*, and *t*, the *ḥ* is regularly replaced (in MSS) by the close spirants *ś*, *ṣ*, and *s*. Hence the interpretations given above, $\underline{h}$ = [x], *ś* = [ç], *ṣ* = [ʂ], *s* = [s], $\underline{ḥ}$ = [ɸ]: these sounds are close spirants in sentence sandhi, varying optionally or regionally in absolute final position with an open variety similar to *ḥ*. Since $\underline{h}$ [x] and $\underline{ḥ}$ [ɸ] occur only as positional (phonetically conditioned) variants and are not further identified with or similar to other sounds in the language (so far as our evidence shows) it is not surprising that they tend to be unstable in their orthography. The assimilation of *ḥ* to *c*, *ṭ*, and *t* produces close spirants in those positions; the result is a series of spirants (*ś*, *ṣ*, *s*) so similar, phonetically, to the *ś*, *ṣ*, *s* of initial and medial position, that the new spirants are identified completely with etymological *ś*, *ṣ*, *s*. This fact is of not inconsiderable importance in the preservation (orthographically) of assimilated *visarga* in these positions.

As to the nature of unassimilated (pausa) *ḥ*, the native grammarians are informative though not entirely in agreement. The unassimilated *ḥ* apparently had enough spirantic affection for inclusion in the *ūṣman* category. There is no agreement as to the *sthāna* 'place of articulation'. TPr. 2.46 terms it *karaṇābhāva* 'without special organ of articulation' (comm.). The frequent identification of *visarga* with *a* and *h* (AVPr., RVPr., VPr., TPr., all as *kaṇṭhya*) led Kirste to believe it was a 'Hauchenge mit gleichzeitiger Mundarticulation des *a*'. The identification with *a*, however, may be due in part to the fact that *a* is much more common than the other vowels. Whitney (JAOS 10.150),

[13] These transcriptions are simply working approximations based on the evidence at our disposal. They are not intended as absolutely conclusive.

in a count of 10,000 sounds, found that *a* occurred about once in every five sounds (19.78%) while *i*, the nearest vowel in relative frequency, occurred approximately once in twenty sounds (4.85%). The use of the adjective *aurasa* 'chest sound' (Pāraskara Gṛhyasūtra 3.16 and RVPr. *urasi* 'in the chest' Vyāk. 3), in view of its limited and isolated occurrence, does not appear to be more than a hazy attempt to localize the open spirants representing *ḥ* in pausa. The reference at AVPr. 1.19 (comm.), *kaṇṭhyānāmadharakaṇṭhaḥ* 'the lower part of the throat is the place of articulation of the *kaṇṭhya* sounds', and TPr. 2.46, where *h* and *ḥ* are reckoned as *kaṇṭhya* (*kaṇṭhasthānām kakāravisarjanīyāu*) would seem to indicate that both *h* and *ḥ* are glottal spirants (voiced and voiceless respectively). Under this assumption the references to *visarga* as *pūrvasthāna* 'position of preceding vowel' form the necessary second part of the suggestion that *visarga* may be considered an open (i.e. frictionless) spirant. In other words, the total articulation includes (1) the tongue position of the preceding vowel, (2) the voiced breath stream becoming unvoiced, and (3) a slight spirant effect produced by glottal and/or buccal friction. This is in complete accord with the phenomena of terminal devoicing and suppression of (close) spirants. There are, then, as many varieties of pausa *ḥ* as there are vowels.[14] Phonetically, these nuances are difficult to identify, especially since they are all allophones of the same phoneme. This would account for the various attempts at localization. Corroborative information is further supplied by the popular (but late) Siddhāntakāumudī, where several positions for *visarga* are mentioned. Note also the loc. plural *visargeṣu* in the Pratijñāsūtra (26).[15]

The evidence (at least to the time of Pāṇini and the Prātiśākhyas) points to the fact that etymological *s* requires a certain amount of spirantic quality for phonemic identification. Transferred from absolute final position, where it becomes *visarga*, to position within the sentence, it sometimes remains unassimilated. This is an indication that the very slight friction of *ḥ* in pausa is sufficient for phonemic identification even within the sentence. Since these allophones occur only in absolute final position and before a voiceless initial (including *s*), there can be no doubt that they are entirely voiceless.

There is evidence, both in the MSS and in grammatical literature, that the Classical Sanskrit system of etymological *s* and its *visarga* is a newcomer among the phenomena of sentence sandhi. The Saṃhitās exhibit many forms with *s* or *ṣ* before *k*(*h*) and *p*(*h*) both in compounds and in sentence-interior.[16] The

[14] Kirste (Wiener Sitzungsber. 121.11.7) believed many points spoke against Hoffory's suggestion (KZ 23.557) that *ḥ* was a whispered vowel. Yet he himself suggested (among others) a pronunciation of *ḥ* 'als h mit der Mundstellung des a, z.B. ah^{a}, ih^{a}, uh^{a}. Still another suggestion was 'als h mit dem sthāna des vorhergehenden Vocals, z.B. ah^{a}, ih^{i}, uh^{u}'. New Bengali voiceless *h* [h], according to S. K. Chatterji, The Origin and Development of the Bengali Language 558 (Calcutta, 1926), 'is optionally changed to the voiceless velar, palatal or bilabial spirant according to the nature of the preceding vowel, e.g. [ɑh : ɑx], [ih : iç], [eh : eç], [oh : oꜰ], [uh : uꜰ]'.

[15] Passage cited by Kirste.

[16] A long list of these has been collected by Bollensen (ZDMG 22.632) with the comment that 'wir nicht zweifeln können, in der lebendigen Sprache sei wirklich s vor den genannten Consonanten gesprochen worden'.

later generalized use of *ḥ* in these positions is a transference from the use of *ḥ* in pausa, and this original pausa *ḥ* may then be assimilated or not. The occurrence of *ṣ* in such a sentence as *yajuṣ karoti* is simply a carry-over from an earlier system, where the etymological form (here *ṣ*) was apparently maintained both in pausa and in word-final position, and continued unchanged in sentence-interior longer than in pausa. The form in pausa finally emerged (with or without assimilation) as the 'standard' form for the Classical period.[17]

The following statements summarize the occurrence of the allophones of terminal *s*. The first gives the treatment of terminal *s* in pausa; the second and third give two optional treatments of terminal *s* in sentence-interior. (V = any vowel, V̥ = the corresponding voiceless vowel; **s* = etymological terminal *s*.)

(1) V + **s* > V + V̥.

(2) V + **s* + *k-/c-/ṭ-/t-/p-* > V + *h̲/ś/ṣ/s/ḫ* + *k-/c-/ṭ-/t-/p-*; or

(3) V + **s* + *k-/c-/ṭ-/t-/p-* > V + V̥ + *k-/c-/ṭ-/t-/p-*.

Since V̥ and *h̲/ś/ṣ/s/ḫ* are all members of the same phoneme, it need not surprise us to find them written for the most part with the same symbol, *ḥ*. The alternations took place automatically and would be noticed only by a trained ear. The symbols for *h̲* and *ḫ* occur from time to time in the inscriptions and the MSS (especially the South Indian).[18] The preponderant use of the symbol *ḥ*, both for V̥ and for assimilated V̥, suggests that the writers of Classical Sanskrit were operating with a phonemic orthography by treating the *visarga* of **s* as a sound class instead of using a separate symbol for each one of the allophones.

[17] After terminal *s* > *ḥ* the new allophones of *ḥ* were transferred from pausa position to preconsonantal position.

[18] For their occurrence in inscriptions cf. Fleet, Corpus Inscr. Ind. 3, Ind. Ant. 5.699; Kielhorn, Epigr. Ind. 3.307, Ind. Ant. 15.34. The haphazard use of these symbols and the lack of regularity in the conversion of *visarga* to a sibilant (symbol) before a sibilant (cf. Whitney on AVPr. 2.40) may be explained by the treatment of *visarga* as a subclass of the *s* phoneme.

THE LATIN AND ROMANCE WEAK PERFECT

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[In the perfect of the Latin first and fourth conjugations, the 'long' paradigm in *-āu̯ī -āu̯istī, -īu̯ī -īu̯istī*, etc. is posterior in formation to the 'short' paradigm in *-ā́ī -ā́stī, -ī́ī (-iī) -ístī*, etc. The latter represents an old inherited Indo-European perfect paradigm; it was the normal form in Vulgar Latin, and is continued in the 'weak' preterites of the Romance languages.]

1. 'LONG' AND 'SHORT' PARADIGMS. In grammars of Classical Latin, the paradigm of the perfect of the first and fourth conjugations (e.g. *cantāre, audīre*) is usually presented as follows:[1]

cantāuī	*cantāuimus*	*audīuī*	*audīuimus*
cantāuistī	*cantāuistis*	*audīuistī*	*audīuistis*
cantāuit	*cantāuĕrunt*	*audīuit*	*audīuĕrunt*

These forms do not agree, however, with those to be reconstructed from the evidence of the Romance languages:[2]

cantā́ī	*cantā́mus*	*audí, audī́ī*	*audímus*
cantā́stī	*cantā́stis*	*audístī*	*audístis*
cantā́t	*cantā́runt*	*audít*	**audírunt, audierunt*

In the 1st person singular of the first conjugation, the preservation of *-ā́ī* as such is to be attributed to the analogical influence of the *-ī* of other conjugations in the 1st sg. present perfect; cf. fn. 26. The forms of the 3d sg. in Italian (*cantò*), Spanish (*cantó*), and Portuguese (*cantou*) are to be traced to *-áu̯t* rather than to *-á́t*; this *-áu̯t* cannot be derived from *-á́u̯it* as suggested by Meyer-Lübke;[3] could *-áu̯t* be older than *-á́u̯it*? (The ending *-it* is certainly a posterior addition in *nōu-it*, cf. Vedic *jajñáu* and the discussion below.) The 3d pl. ending **-írunt* is not attested, Latin only has *-ierunt*;[4] but the fundamental opposition of forms with and without *-u̯-* still remains.

[1] Cf. Neue-Wagener, Lateinische Formenlehre 3.450 ff.

[2] See Caix, GFR 1.229 ff. (1878); d'Ovidio, GFR 2.63 ff. (1879); Gaspary, ZRPh. 3.622 (1879); Meyer-Lübke, ZRPh. 9.223 ff. (1886); Rom. Gramm. 2.§266; Introducción a la lingüística románica[3] 190 f. (§101), 293 f. (§190); Histor. Gramm. der frz. Spr.[4–5] 244 (§331); Das Altlogudoresische 46; Grandgent, Introduction to Vulgar Latin 177 ff. (§§423 ff.); Bourciez, Éléments de linguistique romane[3] 82; Menéndez Pidal, Manual de gramática histórica española[6] 310 ff.; Orígenes del español 380 f.; von Wartburg, ZRPh. 42.373 (1922); Wagner, ID 15.4 f., 14 (1939); Rosetti, Istoria limbii române[2] 1.133 (1940).

[3] Rom. Gramm. 2.§265. Contrast the normal development of *-áui-* in *clāuis* > Ital. *chiave*, Span. *llave*; *grauis* > Ital., Sp. *grave*; *nāuis* > Ital., Span. *nave*; etc. The difficulty was perceived by Diez (Gramm. des langues romanes 2.137), who thought (following Delius) that 'la langue populaire ... n'a fait qu'ajouter à la forme sourde [?] *cantà* un *o* comme voyelle d'appui, de même qu'elle a ajouté cette voyelle dans *cantan-o* [cf. also *uscío, vendeo, feo* = *uscí* + *o*, etc.]: *cantò* est donc syncopé de *cantao*, comme *vo* de *vao* = *vado*.' But this explanation, as Caix correctly remarks (GFR 1.229 [1878]), will not hold for Spanish, which also has *cantó*.

[4] C. F. Bauer (The Latin perfect endings *-ere* and *-erunt* 22, with fn. 26; 45, §36b [LANG. DISS. No. 13, 1933]) proposes to read *dormirunt* in Plautus, Poen. 21, but all the manuscripts give *dormierunt*. In general, Bauer's work is a very careful one and most useful; but he

It is not possible to derive the 'short' forms from the 'long' ones by assuming loss of *-u̯-*, for this loss does not take place normally either in Latin or in Romance. According to some doctrines,[5] Latin intervocalic *-u̯-* falls only under certain conditions, of which none is relevant to the paradigm of *cantāuī*, and in that of *audīuī* only three persons could be explained by loss of *-u̯-* between vowels of similar quality (*audī*, *audīt*, *audīmus*; even here, the similarity is not complete for *audī* and *audīt*). All of these rules, however, are challenged with excellent arguments by Burger.[6] In Romance, Latin intervocalic *-u̯-* falls only in Sardinian, Rumanian, and some zones of Italy (but not in Tuscan); in French only after *o* and *u*.[7] We would, moreover, have to assume in the paradigms of *cantāre* some contractions which are contrary to well-known and proven phonetic rules in both Latin and Romance: if *cantāuī* is to give Fr. *chantai*, then *cantāuit* cannot give *chanta*; cf. also VL **ayo* (Bourciez, Éléments de linguistique romane[3] 78) > Fr. *ai*, Sp. *he*, Port. *hei*; and compare Sp. *cuarenta*, *cincuenta* < *quadrāgintā*, *quinquāgintā* with the supposed development *cantāuimus* > *cantamos*.

2. THE 'SHORT' PARADIGM IN LATIN. But the forms of the 'short' paradigm are, with one partial exception (**audīrunt*), attested in Classical Latin texts, grammarians, and inscriptions, as well as by reconstruction from Romance evidence. It has been demonstrated by several scholars[8] that the shorter forms of the 2d person singular and plural (*cantāstī*, *audīstī*; *cantāstis*, *audīstis*[9]) are even more frequent than the longer forms *cantāuistī*, *audī-*

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does not consider or even cite Burger's and Meillet's articles, and adheres completely to the old idea that the short forms are 'contractions' of the long ones.

Neue-Wagener gives no material from Plautus, so we must complete it from Bauer 45, §36b: there are only two examples of *-īuērunt* (*scīuērunt*, Poen. 123; *trīuērunt*, Pseud. 818) and one of *-ierunt* (*dormierunt*, Poen. 21), which Bauer would correct to *dormīrunt* (see above). The verb *eō* and its compounds (*abeō*, *exeō*, *ineō*) never have any forms with *-u̯-* (*-ierunt*, *iere*, *exierunt*, *iniere*, *periere*).

Cf. Burger, Études de phonologie et de morphologie latines 124 (Neuchâtel, 1928); Sommer, Handbuch der lateinischen Laut- und Formenlehre[3] 566 ff.; Neue-Wagener 3.452 ff.; Meillet and Vendryes, Traité 258 ff. The ending *-ierunt* is preserved in Spanish (e.g. *oyeron* < *audierunt*; see, however, Baist, GGr.[2] 1.913; Meyer-Lübke, ZRPh. 9.234, 254) but not in Portuguese. See TLL s.v. *audiō*; Sommer, Handbuch[3] 565 ff.; Burger, Études 124 ff., where the types *audierō* (Sp. *oyero oyeres*, etc.), *audieram* (Sp. *oyera*), *audierim* are also studied. See on these also Meillet, Introduction à l'étude comparative des langues indo-européennes[7] 214; Mél. de Saussure 99; Mariès, Rev. des ét. arm. 10.169 ff. (1930).

[5] See Leumann, Lat. Gramm. 112 ff.; Sommer, Handbuch[3] 158 f.

[6] REL 4.115 ff. (1926); Études 39 ff., 85 ff. Burger then correctly points out (REL 4.116; Études 107 f.) that the perfects *lāuī*, *flāuī*, where the *-u̯-* belongs to the root (cf. Gk. λόεσσα, OIr. *loathar*, Lat. *lūstrum*), never show the so-called 'contracted' forms; contrast *nāstī* : *nāre*.

[7] See Meyer-Lübke, Rom. Gramm. 1.§442; Meyer-Lübke and Castro, Introducción 190 f. (§101), with Castro's footnote; Bourciez, Élém.[3] 166 f. (§172); Burger, Études 96 f. The only apparent exception (*pauōrem*, represented by **paōrem*, Ital. *paore*, Fr. *peur*) is one more case in which Romance preserved early Latin conditions, as **paōrem* is precisely the regular Latin form to be expected, since *-u̯ō-* > *-ō-* (cf. *sōpiō* = Ved. *svāpáyāmi*, etc., see Burger 92 ff.).

[8] See Burger, Études 115 ff.; Sommer, Handbuch[3] 562 ff., 588.

[9] The perfects in *-īuī*, *-iī*, *-ī* of some third conjugation verbs (*pōnō*, *sapiō*, etc.; see Sommer, Handbuch[3] 565, 573) come under the same head as those of the verbs in *-īre*. For the verb *eō*, cf. the attestations of *(-)īt*, *-īstī*, *-ī* (Sommer 589); add *abīsse*, Miles 1197; more

uistī, etc., and the same is true for the 3d plural *cantārunt* as opposed to *cantāuĕrunt*. Terence, for example, has 8 'long' forms, all at the end of the verse,[10] as contrasted with 67 'short' forms;[11] in Cicero[12] and in Caesar the long forms are comparatively rare.[13] The same is true for the second person forms of verbs like *nōuī*, *-plēuī*, *flēuī*, *nēuī*, *-sīuī*, *quiēuī*, *-olēuī*, *mōuī*, *suēuī*, which have in the 2d person the forms *nōstī* (Plautus Cu. 423), *-plēstī -plēstis* (*ex-plestei* twice, CIL 4.1846, Pompeii), *flēstī* (Ov. Epist. 5.43; Ausonius 163.25 P.32 P.), *-sīstī* (Plautus, Miles 1072), *quiēstī*, *suēstī*, *crēstī* (cf. *cernō*), *crēstī* (cf. *crēscō*), *-suēstī -suēstis*, *-olēstī*, *-mōstī -mōstis*, *-nēstī -nēstis*, see Neue-Wagener 3.480 ff. In this group belong also *sprēuī*, *lēuī*, *sēuī*, *strāuī*, for which, owing to the vicissitudes of transmission, no second-person forms are attested at all, but other short forms are attested.[14] For the third person plural may be cited *nōrunt*, *-mōrunt*, *-suērunt*, *flērunt*, *-plērunt*, *quiērunt*, *nērunt*, *dē-lērunt*. The greater frequency of long forms in certain prose texts is to be ascribed to the

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material in Neue-Wagener 3.466 ff. The stem of *īre* was of course originally *ei-* (*i-*), not *ī-*; *iī* comes probably from **iy-ai*, cf. Indo-Aryan *iy-āy-a* (Sommer, Handbuch[3] 567). The penetration of *-y-* in this verb is late and rare; Plautus has only one example, *amb-īuī* (the usual form is *iī*; see Engelbrecht, WSt. 6.240 ff. [1884]); Cicero, Caesar, Sallust, and Livy never have *īuī*.

[10] Probably for metrical reasons (-⏑-); as pointed out by Engelbrecht, WSt. 6.219, Terence's use of the longer forms of the perfect only at the end of the verse, and of the shorter forms elsewhere, indicates the currency of the latter in the sermo urbanus in Terence's time. See also Meyer-Lübke, ZRPh. 9.247.

[11] These and the following indications also include the 'short' forms of the other tenses of the perfect system; but the facts are even clearer, on the whole, for the three persons of the perfect studied here (and especially for the two second persons). Thus, in Cicero we find *audīstī* 14 times and *audīuistī* once (doubtful moreover); *audīstis* 74 times and *audīuistis* once (also doubtful); see Burger, REL 4.118 (1926). The reason why *cantāram*, *cantārō*, etc. are less frequent IN OUR TEXTS than *cantāstī*, *cantāsse*, etc. is given by Burger, Études 119 (see below, §5).

[12] That the 'short' forms were the usual ones is attested for their times by Varro (Frag. 11, Goetz-Schöll[2] 241), Cicero (Orat. 47, 147) and Quintilian (1.6.16); see Sommer, Handbuch[3] 563; Burger, REL 4.212 ff. (1926); Études 112.

[13] Livy, who is by no means a 'vulgar' writer, has (according to our manuscripts) 150 *-ārunt*, 134 *-āuĕrunt*, 88 *-āuēre* (E. B. Lease, AJP 24.415 (1903]). The form *-ārunt* isc omparatively more frequent in the fourth (56 *-ārunt*, 43 *-āuĕrunt*, 11 *-āuēre*) and in the fifth (34 *-ārunt*, 7 *-āuĕrunt*, 5 *-āuēre*) decades than in the first (37 *-ārunt*, 39 *-āuĕrunt*, 56 *-āuēre*). This corresponds to the very literary and artificial character of the first decade, and is fully confirmed by the figures for *-ēre* (a purely literary form) as opposed to *-ērunt*, the spoken and vulgar form, which has passed into Romance (cf. Lease, 409 ff.); the following percentages are for *-ēre*: 1st decade 54.7% (77.2% in Book 3), 4th decade 13.5% (4% in Book 39), 5th decade 10.1% (3.3% in Book 41).

Lucretius has only one occurrence of *-āuērunt* (6.3), otherwise always *-ārunt*, a fact which F. Muller (Mnemosyne 56.354 [1928]) correctly considers indicative of the comparatively colloquial character of Lucretius' style: 'Porro formae, quales sunt *inritāt* (< *-āu[i]t* [sic!]) 1.70, *disturbāt* 6.587, luculenter demonstrant Lucretium hac in re uestigiis atque usui sermonis cotidiani quam artissime haerere.'

[14] Cf. Neue-Wagener 3.480 ff.; Sommer, Handbuch[3] 564; Burger, Études 117, and see below; on the Romance forms of *crēuī*, *mōuī*, see Meyer-Lübke and Castro, Introducción[3] 295 (§191), and Burger, Études 107 f., 111, 117. On *lāuī*, *fāuī*, *cāuī* see Priscian 2.508.6 (cf. Neue-Wagener 3.478 f.); Burger, Études 107 ff.; Sommer, Handbuch[3] 562.

tendency (correctly pointed out by Burger, Études 116) of scribes to replace the shorter forms by the longer ones, which they considered as 'correct' under the influence of late literary habits and of grammatical regularization.[15] This they could seldom do in the texts of the poets, because of the meter (but they have nevertheless done so sometimes; see TLL s.v. *audiō*, col. 1262, 11.23 ff.; Burger, Études 116; and cf. Plautus, Asin. 348, ed. Ernout [Belles Lettres, Paris, 1932]).[16]

The 3d person singular has also sometimes in our texts the shorter form in *-ā́t -ī́t*, even in very 'good' authors such as Lucretius (*inritā́t*, 1.70; on this form see also Wölfflin, ALLG 9.139 f. [1894–5]), Vergil (*fumā́t* Aen. 3.3), Ovid (Fasti 1.109), Manilius (*desī́t* 5.563), Martial (3.75.1 etc.; 6 times in all), and perhaps in Terence (Ad. 104: *sīt* = *sīuit*). In inscriptions we have *pugnat* CIL 10.7279; *expoleit* 6.260; *munit* 3.3201 (19–20 A.D.); *seruit* 6.11712 etc.; *posīt* 1².1780; *poseit* ibid. 1481; *audit* (with ī longa) is found twice on the statue of Memnon in Thebes (Karnak), CIL 3.38, 45 (134 A.D.; cf. *audiuit* 53; *uox audita mihi est* 45), but in 47 (*audit et donat*) *audit* is a present and does not have ī longa; more material in Neue-Wagener 3.446 ff. (on *-ā́t* 493 ff.), TLL s.v. *audiō*, col. 1262, 11.19 ff. Plautus has some places in which *-auit* is to be read as one syllable (either *-ā̆u̯t* or *-ā́t*); cf. Sommer, Handbuch³ 577. The accentuation *fumā́t*, *audī́t*, *cupī́t* is assured by Priscian 2.130.1 f., and corresponds perfectly to the Romance accent (Fr. *chanta*, *finit*, *servit*; Ital. *udì*, *finì*, *servì* etc.). The short

[15] On the importance of the literary trend towards 'regularization' in the preference for the longer forms with *-u̯-*, cf. also Engelbrecht, WSt. 6.220, and Meyer-Lübke, ZRPh 9.248 (1885): ' ... da wählte die Vulgärsprache die kürzere Form ... , die klassische Sprache aber mit dem jeder Kunstsprache [!] eigenen Trieb nach höchster Regelmässigkeit (was hat nicht in solchem Streben das klassische Sanskrit geleistet!) hielt sich an die längern.'

[16] The accent of *cantā́t*, *audī́t* is of course contrary to the general rules of Latin accentuation; but it is well attested by the grammarians (Priscian GL 2.130.1 f.; Servius ad Aen. 3.3; cf. also 1.451) and is no more unusual than many other 'exceptions' to these 'rules' (*illī́c illā́c istī́c addī́c addū́c tantṓn Pyrrhī́n calēfā́cis ĕxinde Valĕ́ri trī́ginta*, etc.) which may be found in Sommer, Handbuch³ 87 f.; Lindsay, Lat. Lang. 163 f.; Leumann, Lat. Gramm. 181 ff. (where, curiously enough, *cantā́t audī́t* are not mentioned); cf. also Sturtevant, Pronunciation of Greek and Latin² 179. The most directly comparable accentuation is that of *Arpinā́s nostrā́s Samnī́s*. The Romance languages frequently offer excellent confirmations of 'exceptional' Latin accentuation (cf. *illā́c* > It., Fr. *là*, Sp. *allá*; *illī́c* > It. *lì* Sp. *allí*; *istī́c* > It. *costì*); they likewise add more material for Vulgar Latin: *recī́pit* > It. *riceve*, Fr. *reçoit*; *demṓrat* > Fr. *demeure*; *colū́bra* > Fr. *couleuwre*; *integrum* > Fr. *entier*, It. *intiero*, etc. Cf. Meyer-Lübke, Rom. Gramm. 1.§§602, 603. Furthermore, the measure – ⏑ for *uōtā́que* and similar cases in Ausonius and other late poets confirms the accent *uōtā́-que* indicated by the grammarians. And we see now very well that Quintilian (1.5.22 ff.) was right in his accentuation *Cámillus Cēthēgus*, since we know that these names are Etruscan (Schulze, Eigenn. 322).

The accent of *cantā́t*, *audī́t* has been shifted (or preserved?) through the analogy of all the other forms of the perfect (*-ā́ī -ā́stī*, etc.), a phenomenon which could not take place in the present tense (*ˈō ˌās ˌat ˌant*). In this way, a valuable distinction was established between the 3d singular present and perfect. This seems to me the only possible explanation of the Romance AND LATIN form *cantā́t*, since I cannot understand why the whole form should be considered analogical instead of admitting that THE ACCENT ONLY was shifted (or preserved) by analogy.

forms in the 3d person are limited exclusively to the first and fourth conjugation types.

The 1st person plural also has in some cases the shorter form, although the syntactical interpretation of the tense is sometimes doubtful, owing to possible confusion with the first plural present; we find *nōmus* (Ennius Sc. 160); *ēnarrāmus* (Ter. Andria 365); *suēmus* (Lucr. 1.60, 310; 4.367), *intrāmus* (?) (Verg. Aen. 5.57); *narrāmus, mutāmus, flēmus, consuēmus*[17] (Propertius 1.7.5; 2.7.2; 15.3, 9); *audīmus* (CIL 3.30 [65 A.D.], cf. *audīuimus* [63; Cic. Att. 8.11d.3; 9.15.16 (M)]; De Orat. 93 [a part of the mss.]; Aurel. Ad Front. 31.5N; see TLL s.v. *audiō*, col. 1262, 11.25 ff.); more material in Neue-Wagener 3.449, 494.[18]

For the 1st person singular, the material is scarcer, and is exclusively limited, as for the 3d, to the first and fourth conjugation types (no **-plēī, *nōī, *-plēt, *nōt*, or the like is to be found). *Audī̆ī* is attested by Servius ad Aen. 1.451; *probā̆ī, calcā̆ī* are attested by Probus, GL 4.160.14 ff. and 182.11; the σεγναι = *signa(u)i* of an inscription in Greek characters of 160 A.D. (CIL 3.959) is not quite sure (see Wölfflin, ALLG 9.140 [1894–5]; Sommer, Krit. Erläut. 165 f.). For the fourth conjugation we have older examples: *petī̆* (Seneca, Med. 248; Herc. Oet. 1848; Statius, Theb. 1.62); *sepelī̆* (Persius 3.97); then *audī̆ Memnonem* (CIL 3.31 [71–2 A.D.], 33 [79 A.D.], 34 [80 A.D.], 36 [84 A.D.], 35 [82 A.D.], 44 [134 A.D.], 49 [170 A.D.], 50 [195 A.D.?] 51 [196 A.D.], 57, 59, 64 [*audī̆ et egi*; cf. *audiui Memnonem* 32 (72 A.D.), 42 (127 A.D.)], 54, 58, 60, 61 and CIL 4.1852 [a Pompeian graffito]; and see TLL s.v. *audiō*, col. 1262, 11.4 ff.), also Pliny, Epist. 6.21.2; *quaessī* (5.6842, assured by the meter); *dēsī* (5.4656, also assured by the meter).[19] See also Neue-Wagener 3.434 f.[20]

3. RELATIVE AGE OF 'LONG' AND 'SHORT' PARADIGMS. The problem now is: which of the two paradigms is older, *cantāuī cantāuistī* or *cantā̆ī cantā̆stī*? Most scholars regard the latter type as deriving by phonetic development, syncope, or analogy from the former; we suggest, however, that the 'short' paradigm is older than the 'long', as it represents the addition to the verb stem (= root + thematic vowel) of an inherited Indo-European set of endings characterized by *-st-* in the 2d singular and plural but not in the other persons; whereas the *-uī* perfect is an isolated phenomenon and has no parallel outside of Latin. Using as a base the observations of Petersen (LANG. 9.28–9 [1933]), Meillet some years ago reached

[17] No **flēuimus* is attested, so that the real conjugation of the perfect of *fleō* is *flēuī flēstī* (twice, *flēuistī* once, Lygd. 6.40) *flēuit flēmus *flēstis flērunt* (Verg., Ovid., Val. Fl., Statius; also *flēuēre*). Likewise, we find *suēmus, consuēmus*, but no **(con)suēuimus*. See TLL s.v. *fleō*; Neue-Wagener 3.480. Consequently, Meillet's skepticism (BSL 27.234.6 [1927]) about the antiquity of *nōmus* seems excessive.

[18] On *nōmus, ēnarrāmus*, etc., see also Engelbrecht, WSt. 6.224 ff.; on *inīmus, abīmus, perīmus* (?) ibid. 235, 240; on *īt* ibid. 239 (and TLL s.v. *eō*); on *perī* ibid. 243.

[19] The inscriptions have occurrences of the type *posī* (beside *posīuī*), perfect of *pōnō*; of these, two are old: *posīt*, CIL 1.1780; *poseit* 1781 (both from Rome). Plautus has *imposīsse* (Most. 434); Vergil has *dēposīsse* (Catal. 10.16, assured by the meter); see Sommer, Handbuch[3] 573.

[20] For *pōsī, dēsī, quaesī*, etc. (*posīt, dēsīt, quaesīt*, etc.) Burger (Études 126 ff.) considers, chiefly on the basis of the Romance forms (It. *pọsi, pọse* [OIt. also *puosi, puose*], etc.; *chięsi, chięse*, etc.), that the accent was on the penult.

the conclusion[21] that an Indo-European preterite paradigm had existed in which an element *-st-* occurred only in the 2d persons singular and plural; this paradigm is preserved in Latin, in Tocharian (SSS 364; 367 f.; 475; 424; 442; 380), and in Hittite (see Sturtevant, LANG. 8.122 [1932]), and has left some traces in Indo-Aryan:

HITTITE	TOCHARIAN A, PARADIGM I (ACTIVE)			LATIN
(*pai-* 'give')	(*wen-*)	(*tāk-*)	(*kot-*)	
pehhun	*weñā*	*tākā*	—	*ēgī*
pesta	*weñāṣt*	*tākāṣt*	—	*ēgistī* (also *-stī*: *dīxtī*, *dī-rēxtī* in Vergil, etc.[22])
[*pesta*]	*weñā(-ṃ)*	*tāk, tāka-ṃ*	*kot*	*ēgit*
piyawen	*weñā[mäs]*	*tākmäs*	—	*ēgimus*
pesten[23]	*weñäs[ ]*[24]	—	*kotas* (?)	*ēgistis* (also *-stis*: *dīxtis*, etc.)
peyer	*weñār*	*tākar*	—	*ēgĕrunt* or *ēgēre*

For Indo-Aryan, cf. Vedic *vádhīm* 'I struck', 3d sg. *vádhīt*, 2d pl. *vadhistha* (and subj. *vádhiṣas*); *avādīt* 'he said', 2d sg. *vadiṣṭhās* (subj. *vádiṣas*); *ákramīm* 'I strode', 2d sg. middle *ákramiṣṭhas*, 3d sg. *akramīt*, *akran* (with loss of the ending), 3d pl. *ákramur*; see also Macdonell, Vedic Grammar 366 ff., §499; 382 ff., §529, and Meillet, BSL 34.127 f.[25]

[21] BSL 34.127 (1933); cf. also Introduction[7] 214. See also Pedersen, Hittitisch und die anderen indoeuropäischen Sprachen 94 ff.

[22] *Dīxtī*, *dīxtis* are older than *dīxistī*, *dīxistis*; see Burger, Études 103 ff., and cf. Neue-Wagener 3.500 ff. They are frequent in archaic Latin, and normal in Terence. Burger correctly remarks (108, 133) that *lāuistī*, *mōuistī* must be divided *lāui-stī*, *mōui-stī*, the roots being bisyllabic (Gk. λόε-σσα, etc.); the ending is then *-stī*, not *-istī*. The forms *fēcistī*, *ēgistī*, *cucurristī*, etc. are of course formed on the analogy of *lāuī lāuistī*.

[23] The final *-n* of Hitt. *pesten* is analogical, according to Petersen, who also considers the original Tocharian 2d plural ending to have been *-ste*. We may perhaps compare the final *-ν* of Gk. φέρομεν to Lith. *nēsame* and Czech *neseme* (Vedic, Avestan *-ma*?) or also the Vedic 2d pl. *sthána*, *vádathana*, *itana*, *pūnītána*; see Brugmann, Grundriss[2] 2.3.619 ff., 624.

[24] In Tocharian B (or 'Kuchean') the material is scarce; no forms of either the 1st or 2d person are to be found in our texts, as far as I know. The 3d person forms correspond to those in A (considering that A drops the final vowels, which B usually preserves). As dialects A and B are on the whole very closely related, the paradigms of A may to a certain extent be considered as holding for B also. See the material in Lévi and Meillet, MSL 18.2 ff. (1914).

The brackets in the form *weñäs[ ]* indicate that our ms. is cut at this point, and we do not know whether or not a *-t* followed the *-s*. We have no complete 2d. pl. form.

[25] In Slavic we also find a mixed paradigm, in which some forms have *-s-* and some do not, but the distribution is different (2d and 3d singular not sigmatic, all other persons sigmatic), cf. Leskien, Altbulg. Gramm.[3] 201 f., 166.

On OE *cnēow*, *sēow* (perhaps = Lat. *gnōuit*, *sēuit*) see Leumann, Lat. Gramm. 335 (with bibliography); on *blāwan* (cf. *flāuī*?), Hirt, Idg. Gr. 4.268 f.; Handbuch des Urgerm. 2.148, 150 f.

Vendryes (Rev. celt. 44.258 [1927]) also compares the mysterious Celtic *ieuru* (3d sg. perf.).

If we consider all these facts, we reach the conclusion that the Latin type *ēgī ēgistī*, etc. is very old. If, therefore, we add to the stems *cantā-* and *audī-*, for example, the endings *-ī -stī -t -mus -stis -runt*[26] (*ēg-ĕ-runt*, cf. *ēg-i-t, ēg-i-mus, ēg-i-stī*), we obtain exactly the 'Primitive Romance' paradigm *cantā́-ī*[27] *cantā́-stī cantā́-t cantā́-mus cantā́-stis cantā́-runt*. This is consequently older than the 'regular' paradigm *cantāuī cantāuistī*, etc., which has no support whatsoever outside of Latin.[28]

4. ORIGIN OF *-u̯-* IN THE 'LONG' PARADIGM. One problem remains to be solved: whence comes the *-u̯-* of *cantāu̯ī cantāu̯istī*, etc.? This question can now be easily answered by a suggestion of Meillet (BSL 27.234 ff. [1926]; cf. also Introduction[7] 231; Rev. des ét. arm. 10.183 f. [1930]), based upon Burger's article, REL 4.212 ff. (1926) (cf. also Études 112 ff.). In effect, if we remember that no forms without *-u̯-* are ever found in the 1st and 3d singular of the verbs like *nōuī, -plēuī* etc., we easily reach an ancient Latin paradigm:

nōui	*nōmus*	*-plēuī*	*-plēmus*
nōstī	*nōstis*	*-plēstī*	*-plēstis*
nōuit	*nōrunt*	*-plēuit*	*-plērunt*

This paradigm, as we have seen, is not a hypothetical reconstruction, but actually existed.[29] Now, exactly these two roots have in Vedic an element *-u* in the perfect in the same two persons (1st and 3d singular), and only there: *papráu* 1st and 3d sg. 'I filled', 'he filled', *jajñáu* 1st and 3d sg. 'I knew', 'he knew' (Macdonell 355).[30] This, as both Meillet and Burger[31] have pointed out, cannot

[26] The Latin 3d plural ending *-runt* is compared by Burger (REL 4.213 [1926]; Études 114) with Skt. *-ran* (cf. also Sommer, Handbuch[3] 578); it could also, of course, be explained as a sigmatic form: **amā-s-ont, *-plē-s-ont*, although this would present the disadvantage of separating it from the corresponding Hittite and Tocharian forms, which have *-r-*. The *-unt* can easily be explained, like the *-an* of Vedic *-ran*, as an imitation of the 3d plural present and future (and aorist).

[27] The *-ā́ī* of the 1st singular has been either preserved or rebuilt by the analogical influence of all the other Latin perfects in *-ī*. For early Latin, the type *cantā́ī* presents no phonetic difficulty; and for later Latin, its existence is proven by the testimony of Probus.

[28] There is, consequently, a radical difference on this point between Burger's idea and mine; for Burger considers *-plēstī* to be a Latin creation = 2d sg. *-plēs* + perfect ending *-tī* (!) as in *dīxtī, lāuistī* (Études 115; cf. also 105), whereas I consider the element *-st-* in the ending to be Indo-European, and compare it with the Hittite and Tocharian endings, which also contain *-st-*.

[29] See the material in Neue-Wagener 3.480. For *compleō*, we have always *-plēsti(s)* and *-plēssent*, never *-plēuistis* or *-plēuissent* (see TLL s.v. *compleō*). Likewise, I know examples of *crēstī* (cf. *cernō*), *dēlēstī* (cf. *dēleō*), *(con-)quiēstī, (con-)suēstī (con-)suēstis, (ad-)suēstis*, but none of **crēuistī, *dēlēuistī, *quiēuistī, *-suēuistī *-suēuistis* (Plautus Cist. 87 can be read *consuēstī*, cf. Bauer 44, §36a).

[30] One of the Tocharian A preterite paradigms (III) has *-w-* in the 1st person, but not in the others; it also has *-st-* in the 2d singular (no examples of the 2d plural are attested; SSS 331, 375): thus *yām-*, 1st sg. *yāmwā*, 2d sg. *yāmaṣt*, 3d pl. *yāmār*, etc. In the middle we have 1st sg. *yāmwe*, 3d sg. *yāmte*; since *e* in Toch. A always represents an IE diphthong (*ai, ei, oi*), *yāmwe* exactly corresponds to a Latin perfect like *-plēuī, sēuī, flēuī*, etc., where *-ī* represents IE *-ai*, the ending of the 1st person perfect middle (Indo-Aryan *cakr-é*, OCS *vědě*, cf. OLat. inscr. *fecei, petiei, posiuei* 132 B.C., Faliscan *peparai*; see Sommer, Handbuch[3] 574).

The 'reduplicated' Tocharian preterite (probably an old IE perfect) also has the element *-w* (*-wā*) in the 1st sg., but not in the others, cf. *śaśmāwā(ṃ)* (caus. of *ṣtām-*), etc., but 2d sg.

be due to chance. The *-u* is old, and represents one of those archaisms preserved both in Latin and in Indo-Aryan, 'lateral areas' of the Indo-European family of languages.[32]

Here is, evidently, the origin of the *-ų-*, which later had such a great extension. By the analogy of *nōuī nōstī nōuit nōmus nōstis nōrunt*, the old paradigm *cantáī cantástī cantát* became *cantáuī cantásti cantáuit*;[33] then, because of the promiscuous use, at least in certain superior social classes, of forms with and without *-ų-* (*cantáī* and *cantáuī*, *cantát* and *cantáuit*), the *-ų-* crept into the other persons, and the result was the formation of the new forms *cantāuistī cantāuimus cantāuĕrunt*, *nōuistī nōuimus nōuĕrunt*, beside the old forms without *-ų-*.

But the new forms *cantāuī cantāuistī*, etc. never triumphed completely; they never had even the extension which is usually attributed to them. They were more literary than popular, for some reason which we do not understand well for lack of historical documents; but even in our texts, as we have seen, *cantāstī cantāstis cantārunt* always remained on the whole the 'normal' forms, much more frequent than *cantāuistī cantāuistis cantāuĕrunt*, which were considered in Varro's and Cicero's times to be artificial and pedantic. They owed

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śaśmāṣt, *kaklāṣt* (cf. *kāl-*), *śaśrāṣt* (caus. of *tsār*), SSS 371; this type of preterite with reduplication can be compared even more directly with the Vedic perfects like *papráu*, *jajñáu*. In Tocharian B, no forms of the 1st person are known; see S. Lévi and A. Meillet, MSL 18.2 (1914).

In Armenian, inversely, *-w* is preserved in the 3d sg. but not in the 1st sg. (middle): *cnay* 'I am born', *cnaw* 'he is born'; *caneay* 'I have known', *caneaw* 'he has known', etc. (see REA 10.183 f. [1930]; Esq. armén.[2] 124.).

I do not know at what Hittite facts Meillet is hinting in the last passage cited; probably at forms like the preterites *kwenun*, *paun*, *uhun*, *tahun*, *spanthun* etc. (1st sg.). IE **u* is represented by *u* in Hittite (Sturtevant, Comp. Hitt. Gramm. 96) and IE *w* became *u* after a consonant at the end of a word; now, in all the Hittite forms except *paun*, *-u* is the ending of consonant stems. The *-n* of course represents the IE 1st singular ending **-m*, and is a posterior addition. Cf. Benvéniste, Festschrift Hirt 2.230. (Other explanations, which do not convince me, may be found in Sturtevant, Comp. Hitt. Gramm. 254, with note 75.)

[31] Burger (Études 121 ff.) also claims to find remainders of the old paradigm *nōuī nōstī* (with *-ų-* in the first and third singular only) in Ital. *sęppi sapęsti sęppe*; *tęnni tenęsti tęnne*; *ębbi avęsti ębbe* (on the model of which were formed also *dissi dicesti disse* and similar 'strong' perfect paradigms). (To *sapistī* [= Ital. *sapęsti*] and *sapisset* [= Ital. *sapęsse*], add also *resipistī* [Plautus, Miles 345]; cf. Neue-Wagener 3.245 ff.) If Burger is right, the use of the perfect stem derived from the forms with *-ų-* in the Ital. 3d pl. *tàcquero*, *ębbero*, *sęppero*, *tęnnero*, etc., about which he says nothing, is due to its accent, cf. *fęcero* = *fécerunt*, because of the opposition *fēcī*, *fēcimus*, *fēcerunt* : *fēcistī*, *fēcistis* (Ital. *fęci*, *fęcero* : *facęsti*, *facęste*; *ębbi*, *ębbero* : *avęsti*, *avęste*; Italian also has *vęddimo*, *sęppimo*, *ębbimo*, etc., which may be old, as *díssimo*, *lęssimo*, *fęcero*).

[32] For other phenomena common to Latin and Indo-Aryan (and most of them to Iranian too), cf. Bonfante, I dialetti indo-europei 164 f. (Naples, 1931).

[33] The analogy of the paradigm *nōuī nōstī nōuit* can perhaps explain why the 1st and 3d sg. forms *cantāuī cantāuit* are much more frequent than the other forms with *-ų-* (*cantāuistī cantāuimus cantāuistis cantāuĕrunt*); they dominate almost without competition in our Latin texts, and *cantāuit* has perhaps even partly passed into Romance (*cantáut*, in Italian, Spanish, and Portuguese). (I owe this remark and a slight change in the text in part to a suggestion of Professor Sturtevant during the discussion of this paper at the meeting of the Linguistic Society in December, 1940.)

their existence chiefly to the influence of the schools and of the grammarians, to their love for 'regularity', as a paradigm *cantāuī cantāstis cantāuit cantāuimus cantāstis cantārunt* seemed anomalous and shocking. The lower classes always remained faithful to the older and shorter type *cantâī cantâstī cantât cantâmus cantâstis cantârunt*, and this type triumphed, with just one partial exception, in the Romance languages.

It may be recalled in this connection that in the inscriptions of Republican times the longer forms are prevalent (Sommer 563); in the first volume of the CIL, Burger tells us (Études 116), we find 71 'long' forms and only 27 'short' ones; in the Monumentum Ancyranum the 'long' forms are regular (2.26; 4.30, etc.).[34] This shows us only how artificial and far from spoken Latin is the language of the inscriptions.[35]

5. THE OTHER TENSES OF THE PERFECT SYSTEM. Exactly the same holds true for the other tenses derived from the perfect stem: the pluperfect *cantāram*, the future perfect *cantārō*, the perfect subjunctive *cantārim*,[36] the pluperfect subjunctive *cantāssem*, the perfect infinitive *cantāsse*. In all of these tenses the 'short' forms are very frequent, sometimes even more frequent than the long ones; this is true for the pluperfect subjunctive *cantāssem* and the infinitive *cantāsse*. Here also, the hypothesis that the 'short' forms are older than the 'long' ones seems evident; for here also, forms like *cantāueram cantāuerim cantāuissem cantāuerō cantāuisse*, with their *-u̯-*, cannot be explained and find no possible connection in any other Indo-European language, whereas *cantāram cantārō cantārim cantās-se* can be perfectly well compared with the forms of the sigmatic aorist, which contributed largely to the formation of the Latin perfect (*dīxī, rēxī, iūssī, mīsī, di-uīsī* etc.). In particular, *cantārō cantāris cantārit*, etc.[37] are exactly comparable to the Greek future τιμᾱσω (cf. *faxō, capsō* and Greek δεἰξω); and *cantārim cantārīs cantārīt*, etc. are regular optative

[34] In the Carmina latina epigraphica, the short forms of the 3d plural 'rarissima sunt' (Muller, Mnemosyne 56.370 [1928]); there are 6 cases of *-ārunt*, 1 of *-ērunt*, 1 of *-ōrunt*.

[35] Cf. Burger, Études 116: 'Cette prédilection de la langue, fortement artificielle et pédante, de la chancellerie pour les formes longues ne prouve nullement qu'elles soient archaïques, mais seulement quelles passaient pour telles aux yeux des rédacteurs des inscriptions. Bien entendu, pour un Cicéron, *nōsse* était une forme abrégée (imminutum) de *nōuisse* (Orat. 47.157), comme *meum factum* était contracté (poeta qui ... contraxerat ...) de *meōrum factōrum* (ibid. 46.155)'.

This is also confirmed by the great scarcity (6 occurrences) of *-ērunt* (instead of *-ĕrunt*) in the Carmina epigraphica; see the material in Muller, Mnemosyne 56.369 (1928)—he seems to interpret the facts otherwise, see 373, lines 2 ff.; but it is perhaps an inexact expression; see also Bauer 70 ff., §§77 ff., whose view on this point I entirely share.

[36] Ancient Latin still distinguished the paradigm of the future perfect with ī (*cantārīs cantārīt cantārīmus cantārītis*) from the perfect subjunctive with ī (*cantārīs cantārīt cantārīmus cantārītis*); see Sommer 583; Leumann 340.

[37] *Cantāssō, leuāssō, negāssim, prohibēssīt, licēssit, ambīssint, mercāssitur, turbāssitur, impetrāssere*, etc. (see the material in Sommer, Handbuch[3] 585 ff.) are of course no more 'contracted' forms than are *cantārō, cantārim* etc., however they may be interpreted—as *cantas-sō* (aorist subjunctive; Brugmann, Gdr.[2] 2.3.390 f.), or through the analogy of *amāssem* or of *capsō, faxō* (cf. Sturtevant, CP 6.221 [1911], followed by Leumann, Lat. Gramm. 344 and by Bauer 44, fn. 11), or by 'gémination expressive' (Benvéniste, BSL 23.53; cf. also Burger, Études 130).

formations from the aorist stem *cantās-* with the extension to the singular, normal in Latin, of the *-ī-* of the plural instead of *-iē-* (cf. *sim sīs *sīt sīmus sītis sint* for *siem siēs siēt : sīmus sītis sient* and Greek εἴην εἴης εἴη : εἶμεν εἶτε εἶεν, Vedic *syā́m syā́s syā́t syú*). We may compare the Vedic optatives of the sigmatic aorist, as 1st sg. *diṣīya* (cf. *dā-* 'cut'), *bhakṣīyá* (cf. *bhaj-*), *masīya* (cf. *man-*), *mukṣīya, rāsīya, sakṣīya, stṛṣīya* (cf. *stṛ-*), 2d sg. *maṃsīṣṭhā́s* (cf. *man-*) (Macdonell 381); see Sommer, Handbuch[3] 583, Leumann 339. The same holds true for *cantāsse* = *cantās-se*, cf. *cantāre* = **cantā-se* and *es-se, uel-le* = **uel-se*, and so on.

All of these tenses, as far as they still exist in Romance, are of course represented exclusively by the shorter forms. The future perfect is preserved in Iberia (Spanish and Portuguese) and the Balkans (Dalmatian [Bourciez, Élém.[3] 220] and Rumanian). The pluperfect indicative is preserved in Portuguese, Spanish, Provençal, Old French, Old Sicilian, and Southern Italian, but not in Tuscan (except OItal. *fora*). The pluperfect subjunctive (*cantāssem*) is preserved everywhere (Ital. *cantassi*, Span. *cantase*, Fr. *chantasse*, etc.). The perfect subjunctive has completely disappeared.

Italian has no remainder whatsoever of these tenses, except *cantāssem* (and *cantāram* in certain southern regions); this explains why the long forms like *cantāuerō, cantāueram, cantāuerim* have crept into our texts more often than *cantāuistī, cantāuistis, cantāuissem*. As pointed out by Burger (Études 118 f.), the types *amāram, amārō, amārim*, which have not survived in the greater part of the Romance languages, were for that reason more easily replaced by the 'long' forms by scribes under the influence of the literary language and school tradition; and the scribes who copied the manuscripts of Caesar and of the authors of the imperial age were, in ancient times, mostly Italians or living in Italy, or were in any case under the influence of the Italian schools.

6. Conclusion. We have attempted to show that the 'short' paradigm (*cantáī cantástī*, etc.) is the 'original' form for the 'weak' perfect, which was normal in Vulgar Latin and was therefore continued directly in the Romance languages; and that the 'long' paradigm was of later, analogical origin, and was always more or less confined to the literary language. The case of the 'weak' perfect also constitutes a good example of the importance of Romance linguistics for the study of Latin, and of the great difference existing between Vulgar Latin and the 'official' or 'classical' Latin transmitted to us by inscriptions and authors.[38]

Appendix: Notes on the weak perfect in the Romance languages

For the fundamental sources concerning the weak perfect in the various Romance languages, and its paradigms, cf. fn. 2 above. On Rhaeto-Romance, cf. also Th. Gartner, Handbuch der Rätoromanischen Spr. 251; Meyer-Lübke, Rom. Gramm. 2.§268; ZRPh. 9.234.

The double *-mm-* of Ital. *cantammo, udimmo* is an Italian innovation which

[38] In the redaction of this article I owe a great debt of gratitude to my friend Dr. Robert A. Hall Jr. of Brown University. It is a pleasure for me to thank him here most heartily.

has perhaps spread to France: see Meyer-Lübke, Rom. Gramm. 2.§269; Sittl, Lokale Verschied. 61; Meyer-Lübke and Bartoli, Gramm. stor. ital. 113, 194. But Sienese has *-amo -imo* (*accennamo, andamo, sentimo*; Schiaffini, Enc. It. 34.101) and Sicilian has *-amu -imu* (Meyer-Lübke, ZRPh. 9.227; Rom. Gramm. 2.§269), both probably old.

The old texts of some NIt. dialects (Venetian, Veronese, Paduan, Genoese) also have the type *cantắt*: see Meyer-Lübke, ZRPh. 9.233 (1886); Rom. Gramm. 2.§269. Likewise, the Abruzzese ending *-attə* (*purtattə* 'portò', *wulattə* 'volò', etc.) could be, perhaps, this same *-ắt*, 'un cospicuo esempio di *t* nell' uscita latina, sostenuto dall' *e* epitetica (cf. Arch. 2.434–5)' (d'Ovidio, AGl. 4.175 [1878]; GFR 2.64 [1879]).

Fr. *chanta(t)* < Lat. *cantắt* is quite normal, although the contrary has been maintained; cf. *là* < *illắc* (It. *là*, Sp. *allí*); *ja, déjà* < *iam* (It. *già*, Sp. *ya*).

The Sard. 3d sg. *-ait* and 1st pl. *-aimus* are formed on the analogy of the 1st sg. *cantai*; but such forms, for the 3d sg. at least, are comparatively old, for they are found in two Latin inscriptions, one from Africa and one from southern Italy: *dedicait*, CIL 8.5667; *laborait*, 10.216. These forms give an additional proof of the existence of the type *cantāī* (1st sg.) in Latin.

The ending *-ắụt*, which has triumphed in Italian and in Spanish, is also comparatively old; in Italy, it is found chiefly at Pompei: *pedicaut* CIL 4.1691, p. 211; *exmuccaut* 1391; *pedicaud* 2048; *aberaut* NSA 1926.329, 175; *donaut* CIL 6.24481; *militaut* 13.2096; *pugnaut* 33983; *edukaut*, 11.1074; *dedicaut*, 13. 2096; *curaut* 3.12700. There are two examples outside of Italy, in a total of nine. See especially Väänänen, Le lat. vulg. des inscr. pompéiennes 76.

Sp. *oyó*, Port. *ouvíu* are perhaps analogical formations on *cantó, cantou* respectively (Aragonese has also *tú faciós, él fació*, Menéndez Pidal, Orígenes 380); they are not 'phonetic' according to Meyer-Lübke and Castro, Introducción 294 ff., §190. See also Puşcariu, DR 1.423 (1920/21) with bibliography; Meyer-Lübke, Rom. Gramm. 1.§350.

In Sardinian, the old endings *-asti, -astis*; *-isti, -istis* are preserved in the imperfect: *kantasti, kantastis*, etc.; cf. Wagner, ID 15.2 ff. (1939); in many Sardinian dialects the distinction between perfect and imperfect is weakening and has almost disappeared (cf. Wagner, ID 15.14).

The *-ŭ* of Rum. *cîntaĭŭ* has been added by the influence of the present; in old texts the form still ends in *-ai* (cf., for example, Tiktin, Rumän. Elementarbuch 107).

It is surprising that Burger, who so sharply analyzed the Latin perfect, should not have noticed what an argument in his favor the Romance languages offer: quite curiously, he writes (Études 96): 'La flexion du parfait, dans les langues romanes, s'est constituée a la suite d'une série d'actions analogiques dont le détail diverge d'une langue a l'autre'—which is not true at all.

DESIGNATIONS OF THE CHEEK IN THE ITALIAN DIALECTS

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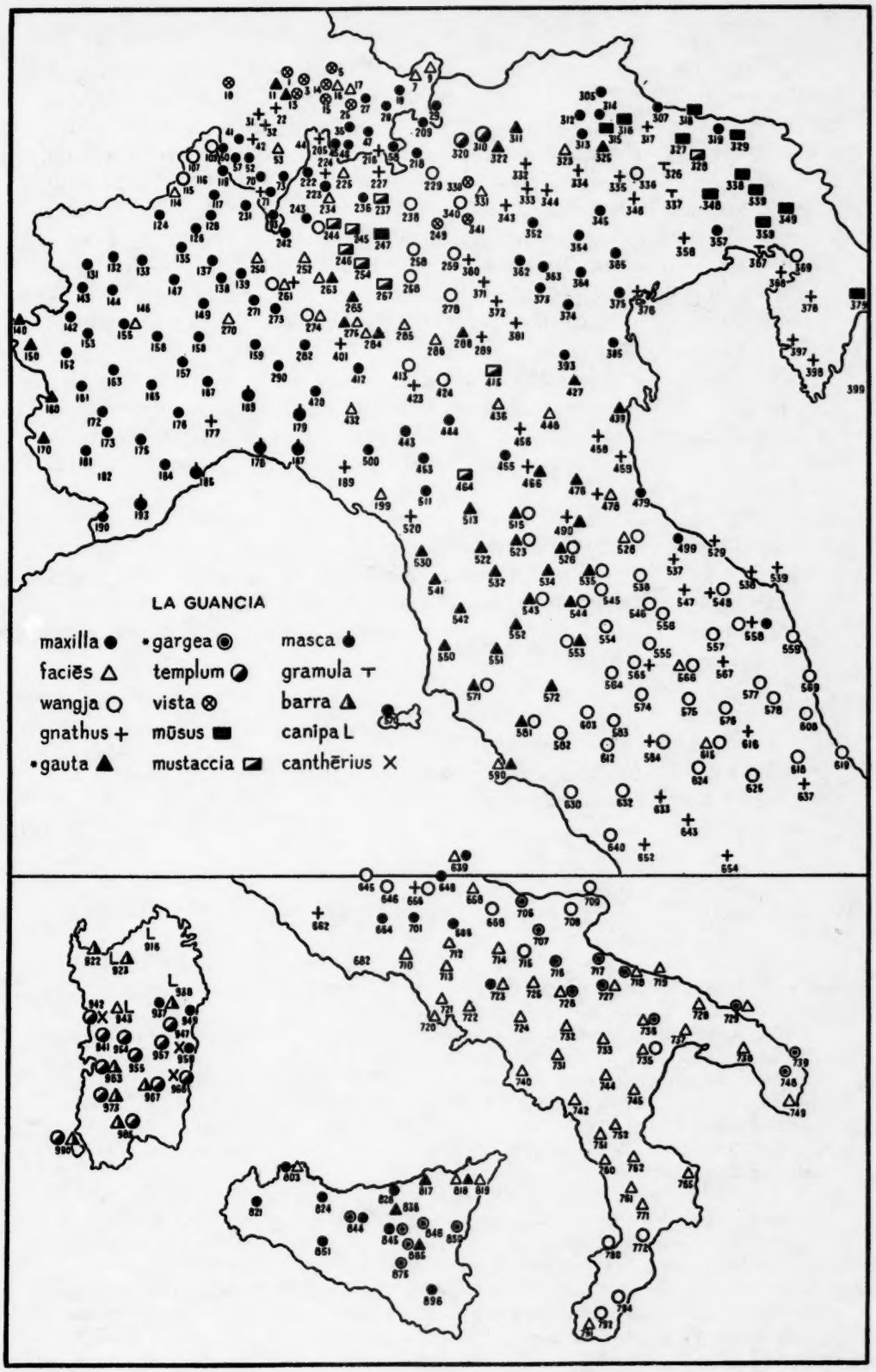
[The article describes the distribution of the terms shown on Map 113 of the AIS, and attempts to explain this distribution on the basis of linguistic geography and semantic development. It closes with a brief comparison of the names for the cheek in the AIS and the ALF.]

1. Map 113 of the Linguistic and Ethnographic Atlas of Italy and Southern Switzerland (AIS), edited by Karl Jaberg and Jakob Jud, presents the dialectal equivalents of standard Italian *guancia* 'cheek'.[1] There are 447 recorded forms, representing 20 different types. Compare the accompanying sketch map.

Maxilla, which appears at 112 points, prevails in the north in a great unified area which includes Piedmont, Liguria, western Emilia and adjacent northern Tuscany, western and northern Lombardy, and the part of southern Switzerland contiguous to Lombardy; in a large area in central and southern Venetia which is separated from the main territory; in a small territory in the south approximately where Latium, Campania, and the Abruzzi meet; and finally, in Sicily and Sardinia. *Faciēs*, which appears at 71 points, has two main territories: one in the south, in the Abruzzi, in Campania, Apulia, Basilicata, Calabria, and Sicily; the other in the north, especially in Lombardy, apparently with offshoots in Emilia and the Marches as well as in Liguria; sporadically it appears in Venetia and Umbria, at the Umbrian borders of the Abruzzi, and in Sardinia. *Wangja* appears at 68 points in two main territories: primarily in central Italy, Umbria, and the Marches, and in those parts of Tuscany, Latium, and the Abruzzi which are contiguous to Umbria, with distinct offshoots towards the south as far as the Apulian territory, Campania, and Basilicata; then in the north, at the Venetian-Lombardian borders and at the Lombardian borders of Emilia, with three forms isolated in the northernmost part of Piedmont and two others in Venetia. Another form of the word, the type *ganga*, appears four times in south Calabria. *Gnathus*, recorded at 57 points, occupies an elongated area from Venetia across Emilia, the Marches, Umbria as far as the Abruzzi and towards Latium, with a small territory in northern Lombardy and south Switzerland; it appears sporadically in Liguria and Tuscany. **Gauta* is recorded at 44 points in a homogeneous area in Tuscany, with offshoots in Emilia and southern Lombardy; it is to be found sporadically and peripherically in northern Venetia and southern Switzerland, at the French linguistic border, and finally in Sicily. These are the main types.

[1] In addition to the linguistic atlases, the following are the works chiefly consulted: Zauner, Die romanischen Namen der Körperteile, Romanische Forschungen 14.339 ff. (1902); Meyer-Lübke, Neubenennungen von Körperteilen im Romanischen, Wörter und Sachen 12 (1929); M. L. Wagner, Studien über den Sardischen Wortschatz, Biblioteca dell'Archivum Romanicum 2.16 (Genève, 1930); H. Kahane, Die Bezeichnungen der Kinnbacke im Galloromanischen, Berliner Beiträge zur Romanischen Philologie 2.2 (Jena and Leipzig, 1932).


LA GUANCIA
maxilla
faciēs
wangja
gnathus
gauta
gargea
templum
vista
mūsus
mustaccia
masca
gramula
barra
canipa
canthērius

There are seven smaller zones. **Gargea*, recorded 17 times, appears in Apulia and at the Apulian border of Basilicata, and in a homogeneous area of Sicily. *Templum* appears at 14 points, 12 in a homogeneous area in Sardinia and 2 in Venetia. *Vista* appears in the Grisons at 8 closely grouped points and at 3 points of the Venetian-Lombardian border country. *Mūsus* appears 10 times in a homogeneous area of northeast Venetia, and once, isolated, in Lombardy. *Mustacia* appears 6 times in a homogeneous area of Lombardy, twice in Emilia, and once in Venetia; *masca*, 6 times in a homogeneous area in Liguria and the contiguous part of Piedmont; *gramula*, at 3 rather scattered points in Venetia. Three types are found only in Sardinia: *barra*, 8 times; *canipa*, 4 times; *canthērius*, 3 times.

Finally, there are these single types, not shown on the accompanying map: *cera* (point 146), in Piedmont adjacent to the *faciēs*-zone; *grunium* (point 455) and *ghigna* (point 444), both in Emilia adjacent to a *faciēs*-zone; *gaunha* (point 182), in Piedmont, at the periphery of the Italian linguistic territory; *kokka* (point 682), in Latium.

The fact that the four main types *maxilla*, *wangja*, **gauta*, and *gnathus*, which are also the four literary Italian terms, make up two-thirds of all the forms recorded and that they go back without exception to the semantic bases 'cheek' or 'jaw', points to a main problem of the map GUANCIA: from the viewpoint of significance and of word-formation no new type has been able to conquer a large territory.

2. The etyma of the words shown on Map 113 may be classified as follows according to their language of origin:

Latin: *maxilla*,[2] *faciēs*, *grunium*,[3] *canthērius*,[4] **gargea*,[5] *vista*;[6] to these may be added Gallo-Romanic *mūsus*, VL *mustacia* (from the Greek), and the pre-Roman *gramula*.[7]

Greek: *gnathus*.[8]

Langobardic: *wangja*.

Provençal: **gauta*.[9, 10] The word *gaunha*, which has gained some ground in

[2] *Maxilla* is the basis of the Italian *mascella*. The Sicilian and Sardinian forms show the old suffix, which has been replaced by *-ella* almost everywhere in the Romania.

[3] Italian *grugno*, REW 3894.

[4] This is the basis of the Sardinian (Logudoro) *kantèrdzu*, (Campidano) *kantrežu*, (Galluro) *kanteǧǧa*, and the Corsican *cantheghja*.

[5] The South-Italian forms of the type *gargia* on the map GUANCIA derive from this term. According to Merlo, Note di fonetica italiana meridionale, Atti della Reale Accademia delle Scienze di Torino 49.892 (1913–4), the word is a derivative of the echoic stem *garg-* (REW 3685); it is to be found with the meanings 'gill' (with which it appears also in literary Italian), 'jaw', 'cheek', 'face', and 'larynx'.

[6] The current term in the Grisons, Zauner 404.

[7] For the etymology of the types *trempa*, *templa* and *kavanu*, see below.

[8] For the etymology, cf. Meyer-Lübke, ZRPh 11.225 (1887); REW 3812; Rohlfs, Etymologisches Wörterbuch der unteritalienischen Gräzität, No. 447 (Halle, 1930).

[9] It forms the basis of French *joue*. As to the etymology, Meyer-Lübke in the already mentioned essay in Wörter und Sachen says: '**gauta* pertains to France, has driven *maxilla* to the northern periphery and has radiated in its day beyond France to the Grisons, Italy, and the Pyrenean peninsula.... What this **gauta* is, we do not know. The possibility of

the south of France over **gauta*, is also to be found on Italian territory (map GUANCIA, point 182; map MASCELLA, point 181), and naturally in the Provençalized parts of the Italian linguistic territory (cf. Jaberg, Escalier, Revue de Linguistique Romane 6.102 note 1 [1930]).[11] To conclude: *ghigna*, which in literary Italian means 'snout; ugly, distorted, grinning face; grimace', goes back (according to REW 9548) to Provençal *guinhar*.[12]

French: *cera*, which in literary Italian means 'face, mien'.[13]

Catalan: Sardinian *barra* (Wagner, Studien), which may belong to *barra* 'crossbar', but which as designation of the jaw or cheek is found only in Catalan, whence the word has penetrated into Sardinian, Old Provençal, New Provençal, and Modern French.[14, 15]

The types of words which serve on Italian territory for the designation of the cheek show, then, an exceedingly high proportion of foreign elements; this may be explained by the fact that the cheek is not a subject for the linguistic imagination. New word-creations did not occur; where old words, already in use for the designation of some other part of the human body, were adopted for the new meaning, unclearness or confusion arose. The tendency toward unequivocalness, therefore, to which many other new creations owe their existence (e.g. *mâchoire* in France), has in this case facilitated the penetration of foreign elements, and the large number of loan words shows how strong was the need for unequivocalness.

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a Gallic origin is strong, and connection with several other words pertaining to the stem *gab-* ... is possible. But for the present, we are limited to rather vague conjectures.'

[10] The earliest proof which I can produce (Ernesto Monaci, Crestomazia italiana dei primi secoli 396 [Città di Castello, 1912]) is the use of *golta* by Bonvesin da Riva, a Milanese of the 13th century. And in the vicinity of Milan, **gauta* still shows this form (*au* here > *ol*). *Gota*, which belongs also to the literary language, is especially common in Tuscany and in various zones of Piedmont (that is, at the French frontier), Lombardy, Venetia, and the Grisons; therefore we may conclude that the stratum was once larger. It does not appear south of Tuscany; for the four Sicilian proofs do not belong to the language of the south: at points 817, 818 in San Fratello and Novara di Sicilia, where we meet the type *gawta*, the language of North-Italian colonies tenaciously survives. The form of these types is the same as in Piedmont. On the other hand, the form at the more southern points 836 and 865 *gota* and *wota* corresponds to the literary Italian *gota*; northern word-material is often to be found in Sicily; Karl Jaberg, Sprachtradition und Sprachwandel 11 (Bern, 1932), says in relation to *testa*: 'Sicily diverges from south Italy, while adhering to the central and northern Italian dialects ... and in this phenomenon is expressed the linguistic modernization which this island underwent after the expulsion of the Arabs.'

[11] The Provençal *gaunha* is derived, as Dauzat, Romania 45.253 f. has proved, from *gavonia*, which probably belongs, as does also **gauta*, to the type **gaba*.

[12] The substantive *ghigna* is probably a post-verbal formation.

[13] Cf. Bezzola, Abbozzo di una storia dei gallicismi italiani nei primi secoli 228 f. (Heidelberg, 1925).

[14] I have assembled the material in my study 63 ff. (see fn. 1).

[15] Finally, two types are, to me, of unknown origin. Ligurian *masca*, according to Zauner 406, 'possibly is related to French *masque*, Italian *maschera* ... , and therefore seems to be a transfer of [the name of] an article of dress, first to the face, and then to be limited to the cheek. It would be strange, indeed, that the designation of an article of dress, which is used only exceptionally, has gone through such a development of meaning; besides, the similarity with *mascella* has possibly contributed.' Cf. also REW 5398.—The form *kokka* (point 682) I cannot explain; perhaps it belongs to REW 2009 *coccum*.

3. The type *faciēs*, which was recorded at 71 points, does not belong to the four main types; the numerical distribution is corrected by the geographical in two ways.

(1) The type *faciēs* is weaker than it appears. The two dispersed zones do not belong together. In the south there is a region in which the transition of meaning from 'face' to 'cheek' has definitely taken place; in the larger zone in the north the cheek is designated simply as 'face'. In the first instance, the form of the word suggests the separation of the two zones: the northern types correspond etymologically to the Italian *faccia*; this, like many other Romanic parallels of the type, is based on *facia*, variant of *faciēs*; the latter existed in Old Provençal *fatz*, and persists to this day in Catalan *fas*, Spanish *haz*, Portuguese *face* 'cheek', in the Sardinian vernacular of Logudoro *fakke*, and in South-Italian *facce*. The Italian linguistic atlas indicates a real change of meaning in the south, and an apparent change in the north: the material presented on Map 113 was secured sometimes by asking, Perchè hai la guancia gonfia? and sometimes by presenting the concept alone; in the north, the *faccia*-forms of the map, when asked for independently, are often replaced by other standard designations of the cheek, whereas in the south the other expressions on the map, when asked for independently, are replaced by *faccia*-forms.[16] Thus, the geographical result is confirmed by the etymological and semasiological facts.

(2) The type *faciēs* is stronger than it appears. The position of some secondary forms in or bordering on the northern *faciēs*-zone, strengthens our hypothesis that in the north there is no question of a real change of meaning; linguistic geography, on the other hand, proves that the northern *faciēs*-territory has a greater expansion than the numerical statement has shown: it embraces the six secondary types which, like *faciēs*, represent designations of the face. These are *vista*, *muso*, *mostaccio*, *cera*, *grugno*, and *ghigna*. The very number of these types indicates that the meaning 'face' must still be living, and as these types are to be found on our map only in spatial connection with the northern *faccia*-territory, it is possible that the shift of 'face' to 'cheek' has been caused by the quantitatively stronger *faccia*-zone;[17] but as the same change of meaning with so many semantically identical types is very unlikely, there remains only the hypothesis that *faccia* still meant 'face'. The synonymy of these types with *faccia* shows, with their geographical connection, that we really have to do with an enlarged *faccia*-zone: the same phenomenon presents itself in other word-types.

While the geographical problem of the *faciēs*-zones could be solved chiefly in relation to semasiological phenomena, historical questions are prominent with the likewise dispersed *wangja*-type. The three zones of the word—the Lombardian, the central Italian, and the Calabrian—presuppose for phonetic reasons three different fundamental types: the Lombardian *wangja*, the central Italian

[16] Wagner (Studien 82) suggests that *faccia* 'cheek', at the Sardinian point 943, represents only the response of a person at a loss for an answer, and that it properly means 'face'. The Sardinian *faccia* 'face' is a loan-word from Italian, in favor of which the old Sardinian *fakke* has lost ground considerably.

[17] *Vista*, which appears in the Grisons, is, according to Prof. Karl Jaberg (information by letter), modeled on the German *Gesicht*, and not on the Italian *faccia*.

wankja, and the Calabrian *wanga* (cf. Gamillscheg, Romania Germanica 2.170). Of these forms (for the explanation of which the Germanists also meet with difficulties), *wanga* apparently presents the Langobardic primitive word; the two others are derivatives. The Tuscan literary Italian form *guancia* might derive from a Romanized form **guankia*, which belongs to the central Italian zone. Now if Meyer-Lübke (8 f.), to obviate the phonetic difficulties, derives the central and northern Italian types (of which the central Italian type, because of the stem termination in *k* instead of *g*, represents a later stage of the development than the Lombardian) from the southern type, then first of all linguistic-geographical considerations oppose themselves: it seems hardly possible to explain the great extension of a Langobardic word, in a region where we might expect it, from a region where it was less vital, as the much more limited relics show. In addition, the three zones of the word coincide with the three centers of the Langobardic domination in Italy: Lombardy, the duchy of Spoleto, and the duchy of Benevento. In other words, it seems that in the three zones of *wangja* three borrowings of the Langobardic word have been preserved until today, without any relation to each other.

4. The recorded terms are divided into three groups of meanings:[18]

(1) 'cheek': *wangja*, **gauta*;

(2) 'jaw': *maxilla*, *gnathus*, *gramula*, *canipa*, *barra*, *canthērius*, *templum*;

(3) 'face': *faciēs*, *cera*, *vista*, *mustacia*, *mūsus*, *grunium*, *ghigna*.

We observe that among the designations of the cheek, the original names, the semasiologically primary types, are foreign words which occupy not even one-fourth of the map. Inversely, the indigenous words, the etymologically primary types, have undergone a change of meaning.

This concerns, first of all, the designations of the jaw. Among these, those types are naturally to be included which have acquired the meaning 'jaw' by a secondary development and have only in this way come to mean 'cheek'.

In this category belongs *gramola* 'hemp-brake'.[19] The semantic development from 'hemp-brake' to 'jaw' results from the common action of grinding and bruising. Thus derivatives of *brekan* are often to be found as designations of the jaw, and *maket* appears in north France. The map MASCELLA shows nine cases of *gramola* in Venetia; the *gramola*-types of the map GUANCIA lie in part within, in part adjacent to, this *gramola*-territory of the map MASCELLA.

The situation in Sardinia is similar, except that here it is the visual affinity instead of the affinity of function that has caused the transition of meaning in the types *canipa*, *canthērius*, and *templum*. Of *canipa*, which appears in the form *kavanu*, Wagner (Studien 81) says: '*kavanu* signifies ... according to Spano "ganascia, guancia"; our mapping shows it in both meanings. ... No doubt ... in this case the primary meaning is "jaw", and the words are visually used expressions which are connected with *kavanu*, *kavuna* "sickle", a word current

[18] I omit the semantically obscure **gargea* and the semantically and etymologically obscure *masca* and *kokka*.

[19] I have assembled the material in my study 28 ff. See also Walter Gerig, Die Terminologie der Hanf- und Flachskultur in den frankoprovenzalischen Mundarten, Wörter und Sachen, Beiheft 1.

in the whole isle; therefore the same parallel is drawn as in Roumanian *falcă* "jaw", Albanian *fełkinę*, from *falx*, because of the crooked form of the jawbone, as Puşcariu (Etymologisches Wörterbuch der rumänischen Sprache, No. 575) already has observed. Phonetically the derivation from *canipa*[20] is not satisfactory.'

Concerning *canthērius*, reference may be made to the already mentioned Catalan loan-word *barra*, which, whether it represents *barra* 'cross-bar' or not, has become identified with this word. Of *canthērius*, Wagner (Studien 81) says: it 'occurs in both meanings ("cheek" and "jaw"). ... In our mapping, the word appears twice ... in the meaning "ganascia", and this in any case is the primary meaning, because the words are derived from *cantherius* "rafter".' (References ibid.)

For the type *trempa* Wagner sets up a new etymology: the former derivation from *tempus* 'temple' has no foundation because this word shows no traces in Sardinia, and because a development of meaning 'temple' > 'jaw' is not probable; for this reason Wagner proposes to derive *trempa* 'jaw, cheek' from the Latin *templum* 'purlin' (which survives in Sardinian *trémpa dessu lèttu* 'sponda del letto'), and to accept a change of meaning from 'lath' > 'jaw' > 'cheek';[21] the development of meaning of *kantérdzu* and *barra* are excellent parallels to this. The indications of the AIS decide in Wagner's favor; because Sicily, for which the map MASCELLA at one point indicates the form *templa*, does not show a *tempula*-type on Map 100 LE TEMPIE; and at the two points in Venetia where the map GUANCIA shows *templa*-forms, the map LE TEMPIE shows no *tempula*-form, but does show other phonetic formations of this type near-by.

On the other hand, I am inclined to distinguish two groups within these secondary jaw-designations: one of spontaneous and one of organic transmission of meaning; the spontaneous transmission appears in Venetia, the organic in Sardinia. In regard to *templum* and *gramula*, which make up the first group, an immediate cause for the transmission can perhaps be seen only in the fact that they lie in regions of transition; but for the second group (*canipa*, *canthērius*, and again *templum*), *barra*, which on the 'jaw' map plays a dominant role in Sardinia, may have been the point of departure. From its two meanings may be explained the change of meaning of some types which have developed from partial synonymy with *barra* to complete synonymy.[22]

For the third semantic group, the designations of the face, the case is the same as for the designations of the jaw: here also a series of expressions, as we have already observed in the treatment of the *faciēs*-zones, comes to designate the cheek only through the intermediate stage of the face.

Now it is strange that of the six expressions which as synonyms of *faccia* have

[20] REW 1591.

[21] To this may be added the following French cheek-designations: Zauner 404: St. Jean de Maurienne *tēbla*, Les Fourgs *templots*; ALF Map 724 JOUE: points 964, 965 *trēmpla*, points 41, 31 *temple*, point 176 *tēmp*.

[22] From this further development may be explained the difficult problem why *templum* appears on the map CHEEK but not on the map JAW, where it is to be expected.

become designations of the cheek, four are pejorative; I present them (so far as possible) with the definitions of Tommaseo in his Dizionario dei Sinonimi:

muso: è proprio di certi animali; d'uomo, ha del dispregiativo, o dell'ignobile almeno.

grugno: propriamente de' porci.—*grugno*, cioè viso brutto ed arcigno, può aversi anche naturalmente.

mostaccio: disprezzativo del volto umano soltanto.

ghigna: 'snout', 'ugly, distorted, grinning face', 'grimace'.

The semasiologically secondary types of the two groups of meaning 'jaw' and 'face' have, with a few exceptions, this in common, that they lay stress upon the sentiment: the secondary jaw-designations stress the imagination; the secondary face-designations stress the emotion; whereas, in the adoption of the vocabulary which was directly accepted for the cheek, that is, the foreign words and the designations of the jaw or the face, we observe a remarkable lack of linguistic imagination. The reason for this phenomenon thus seems to lie in the subject itself.

Tappolet, Germ. Rom. Monatsschrift 14.301 (1926): 'Let us devote our attention to ... a source of multiplicity of words which is of purely psychological nature: the indefinite extent of certain parts of the human body. Wherever a thing, a process, a concept without distinct borders passes over to other things, processes, or concepts, the human mind becomes puzzled: the person who speaks is misunderstood by the person who listens. Language cannot fully accomplish its task. The existing expression varies in its use. This is shown very clearly in the denominations of flat parts of the body, as forehead, temple, cheek, breast. What we usually call the cheek is anatomically speaking a *regio*, a surface, which for the common observer does not stand out sharply either from the jaw or from the temple, and besides comprises the greater part of the face. All this is reflected in the language.'

Meyer-Lübke, Wörter und Sachen 12.7: '*gena* "cheek" nowhere survives in this meaning, *bucca* "chubby cheek" survives only in Roumanian, while it elsewhere means "mouth". It appears that here it is really the unclear demarcation between the cheeks and the jaws which has led to a simplification of the linguistic expression and therefore to the disappearance of the shorter word. ... Today the situation is such that *maxilla* for "cheek" belongs to Italy, Sardinia, Raetia, to the Galician-Spanish-Gascon and to the Walloon. Under such conditions ... one can say without hesitation that the disappearance of *gena* had already taken place in the Latin era, perhaps in favor of the coarser *bucca*; and that then, with the shifting of *bucca* towards *os*, *maxilla* enlarged the extent of its meaning.'

Therefore, we can admit two stages for the development of *maxilla*:

(1) A broadening stage, in which *maxilla* 'jaw' assumed also the meaning of 'cheek'. This development must be fixed rather early, as is shown by the Romanic proofs on the one side, and on the other by the transition of *bucca* 'cheek' to 'mouth' which begins from the last pre-Christian centuries.

(2) A narrowing stage, wherein *maxilla*, which designated the cheek as well

as the jaw, for this very reason was pushed back, and was replaced in part by new word-formations (e.g. Fr. *mâchoire*), in part by foreign words (as on our map). In the end, the original vital power of the word sealed its doom.

These two stages in the relation of the jaw-designations to the linguistic subject 'cheek', one tending towards it and one away from it, can be observed also in another connection: while many examples are to be found where names for the jaw have come to mean 'cheek',[23] the contrary is not nearly so often true. While the map CHEEK shows 201 jaw-forms, the map JAW presents only seven cheek-forms: six times *wangja* and once **gauta*. The Gallo-Romanic linguistic territory presents an analogous picture. From this it follows that no confusion has occurred between the conceptions of the two parts of the human body, but that the designations for the jaw have undergone a real enlargement of meaning. The geographical relation, however, between such names for jaw and cheek as at first were designations of the jaw only, points to the second stage; it shows the tendency to linguistic distinction between the two concepts.

Gnathus occurs 157 times on the map JAW, 57 times on the map CHEEK; only 20 points show *gnathus* on both maps. *Maxilla* occurs 105 times on the map JAW, 112 times on the map CHEEK; only 17 points show *maxilla* on both maps. But even at these common points there are differences of usage which reveal the tendency to keep the two concepts separate. From the 17 points that show *maxilla* on both maps we must subtract five: while the cheek is rendered by *mascella*, points 664, 236, and 45 use as names for the jaw the type *osso della mascella*; point 124 uses the types *mascella da sotto, da sopra*; and point 158 uses the suffixal derivative *mascellone*. Three points on the map JAW (538, 529, 224) paraphrase the type *ganascia* of the map CHEEK by *l'osso della ganascia*. Sardinia presents a similar picture.

The situation is less uniform in the case of *faccia*, which with its related forms is clearly a substitute type (compare the map GUANCIA with Map 665 LAVARSI LA FACCIA). Of the 71 *faciēs* types on the map CHEEK, only eight fail to reappear on the map FACE; and strangely enough this lack of correspondence is to be found especially at points (615, 566, 528, 943) where the *faciēs* types of the map CHEEK occur in complete isolation. Of the more common secondary types, the *muso* forms agree completely on the two maps, the *mostaccio* forms in half the occurrences, and the *vista* forms not at all. As for the less frequent types, a coincidence can be noted in the case of *cera* and *grugno*, but not of *ghigna*. In all of these manifestations (excepting *vista*), spontaneous development may prevail to such a degree that no particular tendency can be established. So far as I can see, a linguistic relation between 'jaw' and 'face' can nowhere be posited; the two groups of meanings which have contributed to the designation of the cheek really present two fundamentally different conceptions of the cheek itself.

5. The Latin *gena* weakens, as we have seen; and this weakening is the point of departure for the further development. *Bucca*, which is substituted for it,

[23] I have assembled them in my study 34, note 8.

undergoes a change of meaning, and this in turn results in a change in the designation of the cheek. Since the cheek presents no stimulus to the linguistic imagination, the designation of the jaw suffers an enlargement of meaning: *maxilla* becomes for the Romania the name for both concepts. The present aspect of the map results from the conflict between the weakness of the cheek as a stimulus to the linguistic imagination and the general tendency to distinguish between cheek and jaw. The striving for clearness then weakens the vitality of the ambiguous type: *maxilla* retreats. The unfitness of the word-material furthers the importation of foreign words: *wangja*, **gauta*, *gnathus* advance. The situation in Tuscany shows a clear combination of both tendencies: *maxilla* is replaced by foreign words in both senses; the cheek is designated by **gauta*, the jaw by *gnathus*.

In spite of all its weaknesses, *maxilla* still has remained the most common type on the map CHEEK. In the last analysis, this map presents the struggle of the weak *maxilla* with various rivals. The weakness of the principal type explains not only the spread of various other types, but the occurrence of these other types in various regions: *faciēs* has penetrated twice, *wangja* perhaps even three times. While on the map JAW two strata stand out clearly from each other, the map CHEEK is split into single zones in which the same tendency is expressed by changing word-material.

The many zones, however, which the map CHEEK presents, are of different kinds. There are zones with real centers, as *wangja* in Lombardy, *wankja* in the duchy of Spoleto, *faciēs* in the south. There are zones with spurious centers, as *faciēs* in the north and **gauta* in Tuscany, which has assumed a real vital power only here at the periphery of its migration, while on the way, in Piedmont, Lombardy, south Switzerland, Venetia, and Emilia, it had to give up the territory once won. And finally there is one zone without a center, that of *gnathus*, which penetrates at many points without proceeding from a central point.

The minor types, having penetrated independently or in connection with the major ones, complete this picture of complex rivalry and fluctuation. The great variety of terms on the map CHEEK, which reflects the attempt to create an equivalent for *maxilla*, results ultimately from the weakness of 'cheek' as a stimulus to the linguistic imagination.

6. Finally, a comparison of the map CHEEK in the AIS with the corresponding map in the Atlas Linguistique de la France (ALF) reveals the following points of agreement.

(1) The once powerful type *maxilla*, as the designation of two different concepts, has weakened and lost ground.

(2) Non-Latin words, such as **gauta* and *kivel*, have come to play a role in the dialects.

(3) Secondary designations of the cheek appear, which could have acquired the meaning 'cheek' only through the intermediate stage 'jaw'; e.g. *capseum*, *maket*, probably also *templum*.

(4) Synonyms for 'face' appear in separate zones with the meaning 'cheek', e.g. *face, figure, visage.*[24]

(5) In the Gallo-Romanic territory, even more than in the Italian, the tendency to a distinction between the meanings 'jaw' and 'cheek' becomes evident: with the exception of the southwest corner of France, where the types *maxilla* and *mâchoire* phonetically coincide,[25] almost no forms are to be found which at the same point designate both parts of the body.

Between the Italian and the French maps CHEEK, however, is a fundamental difference which is evident if we devote our attention not to the particulars but to the whole. This is stated best in Jaberg's words, Sprachtradition und Sprachwandel 11: 'From a similarly oriented examination of the dialects, typical differences between France and Italy become apparent. The strong individual life of the Italian minor states is still clearly delimited in the compact provincial linguistic territories. We are entitled to speak of true regional traditions, while in France the political and administrative centralization is shown in the ever progressing demolition of the special linguistic traditions of the old provinces. Here also, Italy appears more conservative than France.'

[24] For other proofs see Map 1880 POMMETTE, the articles *facies* and *figura* in FEW, and Zauner 403 f.

[25] But cf. Rohlfs, Archiv für das Studium der neueren Sprachen 162.316 (1933).

THE SYLLABIC PHONEMES OF ENGLISH

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[After a brief statement concerning junctures, prosodemes, and consonants, the paper is devoted to a phonemic analysis of the syllabic sounds of English (the vowels and diphthongs) on the basis of their phonetic character, their distribution, and their mutual relations. The results of the analysis are summarized in a table of syllabics and in a concise description of the total pattern.]

1. There are several methods of setting forth the phonemic analysis, partial or complete, of a language.[1] The one followed here in presenting the syllabic phonemes of English proceeds inductively from a statement of the phonetic data (the occurrence of sound-types, their distribution under different conditions, and their relation to each other) to an interpretation in terms of linguistic structure.

Not all the syllabic sounds heard in English occur in all positions; they occur according to selective rules which limit them, or some of them, to certain kinds of context. The procedure involved in grouping these sounds into phonemes is to record the occurrence of each sound-type,[2] with a full statement of the conditions under which it appears; to list the contrasting sound-types in each position; and then to bring together into classes similar sound-types occurring in complementary distribution (i.e. in mutually exclusive positions). These classes are the phonemes.

The sound-types constituting a phoneme must be phonetically similar, complementarily distributed, and congruently patterned; and the class thus composed must be in contrast and mutually exclusive with every other such class in the language. Intersection of phonemes is inadmissible: if a given sound-type x in a given position has been assigned to phoneme A, another occurrence of x in the same position cannot be assigned to phoneme B.[3] Sound-types as members of a phonemic class are called allophones.

[1] We have made use of the following works, among others, bearing on phonemic theory: Leonard Bloomfield, Language, ch. 5–8 (New York, 1933); id., A Set of Postulates for the Science of Language, LANG. 2.153–64 (1926); Edward Sapir, Sound Patterns in Language, LANG. 1.37–51 (1925); Morris Swadesh, The Phonemic Principle, LANG. 10.117–29 (1934); id., The Phonemic Interpretation of Long Consonants, LANG. 13.1–10 (1937); id., LANG. 11.244–50 (1935); W. F. Twaddell, On Defining the Phoneme, LANG. MON. No. 16, 1935; id., On Various Phonemes, LANG. 12.53–9 (1936); N. S. Trubetzkoy, Grundzüge der Phonologie, Travaux du Cercle Linguistique de Prague No. 7, 1939. Our indebtedness to these works, especially to Bloomfield's, will be apparent to the reader.

[2] A sound-type, as we use the term, is a class of the phonetic events called sounds; each sound is a sum of sound-features (as voicing, aspiration, occlusion, labial position, etc.), which may occur in various combinations. The repetition of what is perceptually the same combination constitutes the sound-type, which is thus an abstraction from a series of utterances clustering about a norm.

[3] The reason is that the facts of the utterance give us no clue in any particular instance as to the kind of x we are dealing with; that is, such assignment can be made only on the basis of morphological, lexical, or even more extraneous (e.g. historical) grounds. Ap-

2. The sound-types observed in the utterances of a speech community may be of several kinds, forming different orders of phonemes. Those that relate to the way in which utterances begin and end (or secondarily to the way in which elements of an utterance are joined together) we call juncture phonemes; they are defined by factors of rhythm, of the onset and contour of stress, and of the use of pre- and post-pausal allophones (§4). Variations in loudness, tone, and quantity constitute the accentual or prosodic phonemes, the prosodemes (§5). These two kinds of phonemes are usually recognizable only as modifications of other sound-types; they are suprasegmental. Segmental phonemes, following one another in a sequence, are typically the vowels and consonants. In the structure of the syllable vowels are nuclear, consonants marginal.

A logical order of exposition (though not usually the empirical order of investigation) will begin with the juncture phenomena, and proceed to the prosodemes, then to the nuclear segmental phonemes, and finally to the marginal phonemes. The present study, being only a partial presentation of English phonemics, will deal with junctures, stresses, and consonants only in summary, and then devote itself to the syllabic nuclei.

3. Our observations and analyses are based primarily on our individual dialects. These are both varieties of standard American English of the 'General American' type (i.e. not belonging either to a New England or to a Southern regional type), though GLT has certain Eastern features lacking in BB's more Midwestern speech. Both of us make a nearly maximum number of distinctions among the syllabic phonemes. After working out the analysis of our own dialects, we examined other varieties of English; our general conclusions are applied to all the varieties known to us. In the discussion and the examples, differences in phonemic structure between dialects are clearly labeled.[4]

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parent instances of complete intersection or overlapping of phonemic classes are therefore always the result of an error in the analysis, though cases of partial intersection (different phonemic interpretations of the same sound-type in different positions) seem to be common enough. See B. Bloch, Phonemic Overlapping, to appear in American Speech 16.3.

[4] The following studies, dealing in whole or in part with the same subject-matter as this paper, have helped us to arrive at our analysis: Henry Sweet, The Sounds of English[2], Oxford, 1923; id., A Primer of Spoken English[4], Oxford, 1932; Leonard Bloomfield, The Stressed Vowels of Chicago English, LANG. 11.97–116 (1935); Morris Swadesh, The Vowels of Chicago English, LANG. 11.148–51 (1935); John S. Kenyon, American Pronunciation[6], Ann Arbor, 1935 (and later edd.); Daniel Jones, An Outline of English Phonetics[3], Cambridge, 1932; Martin Joos, Regional and Personal Variations in General American, Le Maître Phonétique No. 45, 3–6 (1934); id., Stressed Vowels Plus *r* in General American, ibid. No. 48, 93–7 (1934); Bernard Bloch, Broad Transcription of General American, ibid. No. 49, 7–10 (1935); G. L. Trager, The Transcription of English, ibid. No. 49, 10–3 (1935); A. C. Lawrenson, On the Broad Transcription of Southern English, ibid. No. 50, 22–4 (1935), and many other short articles by various writers in the same journal; Kemp Malone, The Phonemes of Current English, Studies for William A. Read 133–65 (Baton Rouge, 1940).

We are indebted also to several of our colleagues, especially Prof. Leonard Bloomfield, Dr. Charles F. Hockett, and the late Benjamin Whorf, for criticism and for many valuable suggestions on English phonemics. Our statements concerning other dialects than our own are based partly on casual observation, partly on the reports of native speakers, partly on the findings of the Linguistic Atlas of the United States and Canada.

4. Juncture phenomena have been too little studied to permit more than a tentative formulation here. The transition from the pause preceding an isolated utterance to the first segmental phoneme, and from the last segmental phoneme to the following pause, we call open juncture. By contrast, the transition from one segmental phoneme to the next within the utterance (whether this is a morphologically simple form like *black, port,* or a morphologically complex one like *blacker, importation, the man*) we call close juncture.

A study of post-pausal and pre-pausal allophones reveals several recurrent differences between these and the corresponding allophones occurring elsewhere than at points of open juncture. Initial vowels may begin smoothly (with the glottis already in the position for voice) or with a glottal stop; the two kinds of onset are in so-called free variation, i.e. they do not contrast significantly, but the precise conditions (of style, emphasis, emotional coloring, or the like) under which each one occurs have never been analyzed and perhaps cannot be. Since the glottal stop is never significant, it is not a separate phoneme but merely an optional feature of vowels in open juncture. Voiceless stops after open juncture are short, and aspirated even before a weak-stressed vowel (§5), whereas internally they are aspirated only at the beginning of a strong-stressed syllable; other consonants after open juncture are also uniformly short in normal speech, though they may be lengthened for emphasis. Pre-pausal syllabics consisting of one of the so-called long vowels and diphthongs (§9) are exceptionally long or 'drawled', the drawl extending over the whole syllabic; and the same is true of final nasals and liquids ending a stressed syllable. Final stops are usually unreleased; final voiceless stops are unaspirated; final voiced stops and spirants are partially unvoiced at the end; and final voiceless spirants are longer than at the beginning of an utterance.

A loud stress on the first syllable after a pause sets in simultaneously with the beginning of the first segmental phoneme and rises rapidly in strength; a loud stress on the last syllable before a pause falls off slowly and is accompanied by drawling of the segmental phonemes. A weak stress on the last syllable before a pause is usually still weaker than in other positions, and may decrease in loudness toward the end of the syllable. On the basis of this complex of phenomena —a complex which involves prosodic and segmental phonemes as well as rhythmic factors on the level of sentence intonation—we may set up a tentative definition: Open juncture is the totality of phonetic features which characterize the segmental and suprasegmental phonemes at the beginning and at the end of an isolated utterance.

Further observation shows that the features of open juncture are present not only before and after pause, but also internally in some utterances. These utterances, we know from the morphology of English, are derivatives, compounds, and phrases—never simple words. Compare *syntax* (with close juncture between the two syllables) : *tin-tax* 'a tax on tin' (with open juncture: drawled [n] similar to [n] before pause); *minus, onus* (close) : *slyness, slowness* (open: drawled syllabics); *nitrate* (close) : *night-rate* (open: unaspirated [t] in first syllable) : *dye-trade* (open: drawled syllabic); *another, a name, a talk* (close) : *an udder, an aim,*

at auction (open: onset of stress coincident with beginning of vowel).[5] These examples show that internal open juncture is phonemically different from close juncture. Is it also different from the open juncture before and after pause? We believe that it is, but we cannot prove our contention;[6] to do so will require a careful study of experimental data, specially prepared, concerning segmental, prosodic, and rhythmic features. Until such data have been assembled by a laboratory phonetician, we shall avoid the risk of obliterating a possible contrast, and distinguish the two kinds of open juncture in our transcription: external open juncture (the kind that occurs before and after pause) will be marked by a space between symbols, internal open juncture by a hyphen; close juncture will then be implied wherever the symbols are not separated by a space or a hyphen.

As in morphology the basic unit is the word (minimal free form), so in phonemics we may set up as a basic unit an utterance or utterance fraction bounded by external open junctures (spaces) and containing one loud stress (or its surrogate, contrastive stress); and as a word may contain more than one morpheme, so our phonemic unit may contain any number of subordinate stresses in addition to the one loud stress, and any number of internal open junctures (hyphens). As a name for this unit we suggest PHONEMIC PHRASE.

5. We have stated that a phonemic phrase contains only one stress of the loudest kind, either the ordinary main stress or the specially loud contrastive stress, with or without other stresses of subordinate loudness. We must now establish the number of significantly different degrees of stress in English and their relation to each other.

Limiting our examination first to utterances of two or more syllables without internal open juncture, we may compare *lófty* : *alóft*, *cúrrent* : *corréct*, *béllow* : *belów*, *énemy* : *anémic* : *animátion*, etc. The position of the main stress is

[5] On such cases as *a name* : *an aim*, *ceasing* : *seasick*, etc., see Daniel Jones, The 'Word' as a Phonetic Entity, Maître Phon. No. 36, 60–5 (1931); G. Dietrich, Das Wort als Phonetische Einheit, ibid. No. 38, 31–3 (1932). Jones assembles an imposing list of words and phrases differing in juncture, and draws attention to most of the phonetic features that distinguish the two kinds of juncture; but he does not systematize his findings, and of course does not use the terminology here proposed.

The characterizing features of open juncture are in many cases akin to (sometimes identical with) the features which Trubetzkoy calls Grenzsignale; see his Grundzüge der Phonologie 241–61. As appears from his discussion (though the English example *we learn* : *will earn* on 249 is badly chosen), features of open juncture correspond to boundary signals of the kind that he calls 'aphonematisch'; but though such features (e.g. the aspiration of voiceless stops in English) do not distinguish segmental phonemes, they serve to characterize one term of a distinctive contrast on the suprasegmental level, and are therefore on that level phonemic.

What Sweet, Sounds of English[2] 58–65, calls sound-junction is of course not the same thing as juncture.

[6] Note, however, the contrast between *That horse is running* and *That horse's running* (*delights me*). In the former phrase the rhythmic pattern seems to be *that-horse is-running*; in the latter, *that-horse's running*. Both phrases have open juncture before the *r* of *running*; but we hear the final consonant of *is* as weaker than the final consonant of *horse's*. Prof. Charles C. Fries once suggested that the different aspects of the verbal form in *-ing* may be distinguished by a difference in rhythm: cf. *John-is-going to-the-store* (progressive) and *John-is going-to-the-dogs* (descriptive).

obviously an essential part of the total complex of distinctive features which constitute and identify the utterance. There are, it is true, other differences than in the degree of stress between the loud and the less loud syllables—notably in the quality of the syllabic; but though it is possible to formulate a description of the facts by regarding stress differences as non-distinctive features of different vowel phonemes, we get a simpler and more compact statement if we regard the degrees of stress as phonemic in themselves. Minimal contrasts are few (e.g. *tránsport* : *transpórt*, *íncrease* : *incréase*, *díscus* : *discúss*), but the non-minimal contrasts involve the entire lexicon. The two stresses illustrated in *lófty* : *alóft*, *cúrrent* : *corréct*, etc. may be called loud and weak; loud will be symbolized by an acute accent over the vowel letter (since the vowel, as the nucleus of the syllable, is the principal bearer of prosodemes), weak by the absence of any special mark.

In words like *cóntents*, *cónduct*, *sýntax*, *rótate*, etc., we find that the first syllable has a loud stress, but that the second syllable is not as weak as the weak syllables of *lófty*, *cúrrent*, *díscus*. The difference is especially noticeable when we compare the final syllables of *áxis* and *áccess*, *óxen* and *áccent*, *málady* and *hóliday*, *éffigy* and *réfugee*. There are clearly two different degrees of stress in addition to the loud; the stronger of these we shall call medial, and mark with a grave accent: *cóntènts*, *sýntàx*, *rótàte*, *áccèss*, *áccènt*, *hólidày*, *réfugèe*. Medial stress is especially common in words of three or more syllables, where it is often distributed in relation to the loud stress in a fairly regular way; but there are many exceptions to this regularity (cf. *exàmináti̇on* : *àlimentáti̇on*). That medial stress is phonemically different from weak stress is shown in such contrasts as *ánimàte* vb. : *ánimate* adj., *cómplimènt* vb. : *cómpliment* n., *delíberàte* vb. : *delíberate* adj.; cf. also American *nécessàry*, *sécretàry* : British *nécess(a)ry*, *sécret(a)ry*.

A monosyllable pronounced in isolation has a loud stress, phonetically identical (so far as we can judge) with the loud stress of polysyllables, and with exactly the same kind of onset and contour in relation to the segmental phonemes. Further, when a monosyllable has contrastive stress (specially loud stress combined with the intonation characteristics of emphatic utterance), it shows the same prosodic features that are found elsewhere with this kind of stress. This is confirmed by the fact that some speakers occasionally pronounce an inherently weak-stressed monosyllable in isolation with contrastive stress. As we shall see later (§7), the vowels [ʌ] and [ə] are allophones of the same phoneme, the first occurring with loud or medial stress, the second with weak; accordingly, the word *just* in standard English regularly has [ʌ] when it is the loud-stressed adjective, but [ə] when it is the weak-stressed adverb (*I just cán't*, etc.). When the adverb is pronounced with contrastive stress, either in isolation or for special emphasis in context, some speakers retain the [ə] of the weak-stressed form instead of substituting the normal loud-stressed [ʌ]; in this case the word may be said to have inherently weak stress, which can alternate (as in any other weak-stressed syllable) with contrastive stress.[7] Cf. also the substandard *fer* 'for', as in

[7] We owe this example to Dr. Morris Swadesh, who cites it from his own speech; but we do not know whether he would now accept this explanation of it. An instance of a dissyllabic word with inherent weak stress is GLT's pronunciation of *twenty*. This has, in isolation, not the vowel of *ten* but the second vowel of *handed* (see §7 for the relation

What fer?, restressed from the weak form with retention of the weak-stressed allophone. Other monosyllables with inherent weak stress are auxiliary verbs, prepositions, conjunctions, articles, and the like; but these are usually in morphophonemic alternation with phonemically different loud-stressed forms.

We proceed now to phonemic phrases with internal open juncture (hyphen). These are numerous, including most compounds: *blackbird, redcap, army-cot, coal-bin, stage-struck, trolley car*, etc. (The presence or absence of a hyphen or a space in the traditional orthography has of course nothing to do with phonemic junctures.) In these examples, the first syllable has a loud stress, the last has a subordinate stress which is louder than the medial stress of words like *cóntènts, réfugèe*. A direct contrast to confirm the phonetic difference is found in *syntax : tin-tax*; but the latter has internal open juncture (§4), and it might be argued that this conditions the slightly louder stress. Evidence for the phonemic difference between this stress and medial stress is furnished by compounds involving longer elements. The word *àuditórium* has medial stress on the first syllable, loud stress on the third, weak stress on all the others; according to a well-known habit of English morphology, a loud stress becomes less loud when the word in which it occurs becomes the secondary member of a compound; therefore, in a compound like *movie-auditorium*, the loud stress on the third syllable of *àuditórium* is reduced in loudness. But this reduced stress remains louder than the medial stress on the syllable *àu-*;[8] and the difference between them cannot be explained by any phonologically valid rules of position or alternation. We conclude that the stress on *-tor-* in the compound *movie-auditorium* is phonemically different from both ordinary loud stress and medial stress, though it is obviously in morphophonemic alternation with the former. We shall call it the reduced loud stress, and mark it with a circumflex accent: *blâck-bîrd, réd-câp, ármy-côt, cóal-bîn, stáge-strûck, trólley-câr, tín-tâx, móvie-àuditôrium, élevàtor-ôperàtor, excêss-prófits, êxcèss-prófits-tâx*.

There are then four phonemically different stresses in English, not counting the contrastive stress which may alternate on an intonational level with any one of them. The combinatory patterns of the four stresses are extremely varied and complex even within single words; learned words may have several medial stresses (e.g. *cònstitùtionálity*), while reduced loud stresses occur most frequently in native compounds. The presence of internal open juncture does not always imply a reduced loud stress; cf. *hỳdro-eléctric, slý-ness*.

Syntactic constructions involve the same four stresses, often with the addition of intonational prosodemes irrelevant to English morphology. A syntactic phrase may be a phonemic phrase if it contains only one loud stress; original

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between these two); the latter vowel is normal for the weak-stressed form of the numeral in the compounds *twenty-one*, etc., and appears with contrastive stress (restressed) in the simplex.

[8] In our judgment of stress, more than anywhere else, we feel the lack of relevant experimental data. Although we are fairly sure of the difference between the reduced loud and the medial stress in *movie-auditorium* and similar compounds, we hope to prove this difference by submitting a series of test words or a prepared text to a laboratory phonetician for recording and electrical measurement.

loud stresses in syntactically subordinate words appear as reduced loud, medial, or even weak, and original external junctures (spaces) appear as internal (hyphens). As a result of such morphophonemic alternations we get a great variety of stress patterns and contrasts; cf. *a black bird* (phonemically stressed *ablâck-bírd*) : *a blackbird* (phonemically stressed *ablâck-bîrd*).

The loud, reduced loud, and medial stresses are conveniently called strong, in contrast to the weak.

6. The consonant phonemes of English are /p, t, k, b, d, g, č, ǰ, f, θ, s, š, v, ð, z, ž, m, n, ŋ, l, r, w, j, h/.[9] All of them except /ž, ŋ/ can be shown to be in direct contrast with each other initially: *pill, till, kill, bill, dill, gill, chill, Jill, fin, thin, sin, shin, vine, thine, zeal, meal, kneel, lay, ray, way, yard, hard.*[10] All of them also, except /r, w, j, h/, are clearly found in medial and final position; /w, j, h/ occur medially before a strong-stressed vowel (*awáy, beyónd, ahéad*), /r/ occurs in any medial position (*merry, arouse*). The phonemes /ž, ŋ/ occur medially before a weak-stressed vowel and finally: *measure, confusion* (cf. *mesher, Confucian*), *singer* (cf. *sinner, finger*); *rouge* (cf. *ruche*), *sing* (cf. *sin, sink*).

Speakers who distinguish *wheel* and *weal, which* and *witch, whale* and *wail,* etc., have the cluster /hw/ in the first member of each pair. That this is a cluster and not a unit phoneme can be shown by comparison with the clusters /hj/ in *huge* and /kw, gw, tw, dw/ in *queen, Gwen, twice, dwarf.*

That /č, ǰ, š, ž/ are unit phonemes appears partly from their distribution with respect to points of open juncture, partly from their behavior in clusters (cf. *belch, bulge*; *shrink*). There may be some dialects in which they can be analyzed as /tj, dj, sj, zj/ respectively, but considerations of pattern congruity make this unlikely. Under no circumstances can /č, ǰ/ be analyzed as /tš, dž/.

To examine the distribution of consonants in clusters is beyond the scope of this paper.

7. We are now ready to examine the syllabic sounds of English. We begin our analysis with monosyllabic words pronounced in isolation and bearing a loud stress, ending in a voiceless stop and containing, immediately before this consonant, a vowel which is phonetically short and non-diphthongal. We find that such units reveal six categories of contrasting sound-types, illustrated by *pit, pet, pat, pot, putt, put.* The vowels of these words may be written phonetically (impressionistically) as [ɪ, ɛ, æ, ɑ, ʌ, ʊ].[11] We look next at words of the

[9] Phonemic symbols are enclosed between diagonals to distinguish them from spellings (cited in italics) and from phonetic symbols (enclosed in square brackets). For the consonant phonemes we use Bloomfield's symbols; see his Language 91.

[10] It is esthetically satisfying to find minimally contrasting pairs like *vine* : *thine,* and especially pleasant to find a whole series like *pill* : *till* : *kill,* etc.; but such contrasts are by no means necessary to prove a phonemic difference. Thus, it is not easy to find a pair of words exhibiting a minimal contrast between /ž/ and /ŋ/, but the lack of such a pair is easily supplied by the series *singer* : *sitter, letter* : *leisure* or *ring* : *rim, room* : *rouge.* In languages with a more complex morphological structure, even short series like these are often hard to find.

[11] Symbols enclosed in square brackets are phonetic, not phonemic. In the phonetic transcriptions, we use (except for a few changes imposed by typographical limitations)

same kind but ending in a voiced stop: *bid, bed, bade, cod, cud, could* (for GLT's pronunciation of *bad* and BB's pronunciation of *cod* see below); here the six sound-types are the same in quality (or nearly so) but noticeably longer, and the distribution of the lengths is complementary. Before spirants, the differences in length may be still greater,[12] but again depend on the character (specifically the voice-term) of the following consonant, and no contrast is possible: *miss, mess, mass* (BB but not GLT), *toss, cuss, puss* : *Liz, fez, has, Boz, does*; [ʊ] does not occur before a voiced spirant except in the dissyllabic word *bosom*. The same sounds, again with the exception of [ʊ],[13] occur also without a preceding consonant: *ill, ell, at, odd, up*.

We have here six vowels that are clearly separate phonemes. They occur freely before and after consonants and clusters of all kinds, though [ʊ] is statistically less common (for historical reasons). In GLT's dialect [æ] is rare in monosyllables except before /p, t, k, č/, the [æ] of other dialects being elsewhere replaced by a long tense vowel with a central off-glide which we may write [æ·ə̯]; this sound is often in contrast with short [æ]: thus *bad, can* 'tin container', *adds* with [æ·ə̯], present a minimal contrast to *bade, can* 'am able', *adze* with [æ]; *have, has, had* have [æ], *halve, jazz, mad* have [æ·ə̯].[14] In BB's dialect *bomb* has a rather short [ɑ] (though slightly longer than the vowel of *pot*), while *balm* has a much longer vowel of the same quality [ɑ·], which appears also in *rob* and *pod*. The contrast *bomb* : *balm* shows that [ɑ] and [ɑ·] are phonemically different;

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the system presented in B. Bloch and G. L. Trager, Tables for a System of Phonetic Description (preliminary edition), New Haven, 1940. Most of the symbols are familiar; [ɛ] denotes here the mean-mid-front vowel of *pet* (not, as in that system, the lower-mid-front vowel of French *faire*); [a] denotes a low-central vowel (not low-front); [ɑ] denotes a low-back unrounded vowel; [ɚ] denotes a variety of mid-central retroflex vowels, whether actually articulated with inversion of the tongue tip or with retraction and lateral compression of the body of the tongue; [i̯, u̯] and the like denote nonsyllabic vowels or brief glides. Vowel length is marked by a raised dot; a small arrowhead pointing up is used as a diacritic after vowel letters to denote a somewhat higher vowel than the variety written with the unmodified symbol.

It is to be borne in mind that our phonetic transcriptions are intended to be only approximate, and purposely ignore features irrelevant to the discussion. On the principles underlying our practice see Bloch's statement in Hans Kurath and others, Handbook of the Linguistic Geography of New England, ch. 4, esp. §§1–3, 21–8 (Providence, 1939).

[12] Our judgments of length are admittedly subjective, and lack the precision of mechanical or electrical measurements (cf. fn. 8). Nevertheless we believe that our statements regarding relative length are valid within the limits of this investigation.

[13] Unless the exclamation *oops* has [ʊ]; but this is not really part of our active vocabulary. Hermann Michaelis and Daniel Jones, A Phonetic Dict. of the Engl. Lang. 426 (Hannover and Berlin, 1913), list only *Ulrich, Ulrica*, and *Uruguay*—besides *ugh* and an occasional weak form of *who*—as beginning with [ʊ] in the speech of Southern England.

[14] See G. L. Trager, The Pronunciation of 'Short *a*' in American English, American Speech 5.396–400 (1930); id., One Phonemic Entity Becomes Two: the Case of 'Short *a*', ibid. 15.255–8 (1940). Sapir once remarked on a similar distinction in his own speech: he pronounced all words of this class with a rather low [æ], the length of the vowel being regulated by the voice-term of the following consonant; but in the pair *have* : *halve* he pronounced respectively the normal medium-long [æ] and a distinctly overlong vowel of the same quality. His own explanation of this anomaly was that the word *halve* contained, in his speech, a unique phoneme found nowhere else (cf. fn. 33).

the former is rare except before /p, t, k, č/. A similar distinction obtains in several other varieties of English. GLT has a short [ɑ] in *pot, rock*, a longer vowel of the same quality in *pod, bomb*, but a different, more advanced long vowel, which may also be written [ɑ·] for convenience, in *balm, father, pa*. This is the situation described by Bloomfield for the speech of the older generation in Chicago.[15] For the phonemic interpretation of [ɑ·] see §12.

In words of more than one syllable the six phonemes already established are found to occur with all of the three strong stresses: with loud stress in *pítting, pétting, pátting, pótting, cútting, pútting*; with reduced loud in the second members of *háir-pin, púp-tênt, dóor-mât, ármy-côt, téar-dûct, hánd-bôok*; and with medial in *cónvict, cóntents, áutomàt, ápricòt, cóndùct, spóonfùl*. It should be noted that in all such words the vowels occur only in syllables ending in a consonant or a consonant cluster. They are never found finally with one of the three strong stresses.

Weak-stressed vowels in comparable syllabic situations differ in quality from the strong-stressed vowels discussed above; but this difference does not justify the postulation of a separate series of phonemes. All the weak-stressed vowels are of course in complementary distribution with all the strong-stressed ones; their phonetic interrelationship and the phonetic resemblance which each one bears to one of the strong-stressed vowels makes it possible to arrive at a satisfactory phonemic identification of the two series. In general, it will be seen that the weak-stressed member of a phoneme is more centralized (i.e. pronounced with a tongue position less clearly front or back) than the strong-stressed vowel which it most nearly resembles.

Thus the weak-stressed [ɪ] in words like *habit, habitat, candid, helping, incite*, and the weak-stressed [ʊ] in words like *educate, regular, careful* (when this is not pronounced with syllabic [l̩] or with [fəl]) are respectively more centralized than the vowels of *pit* and *put*. The rather uncommon weak-stressed [æ] in the second syllable of *àdvantágeous* or the first syllable of *Calcútta*, and the weak-stressed [ɑ] in *Octóber, postérior*, both of which occur only before a syllable with loud stress, bear the same relation to the vowels of *pat* and *pot*. The obvious phonetic resemblance between these centralized vowels and the corresponding peripheral ones leaves no doubt as to the phonemic groupings.

It will have been noted that the weak-stressed [ɪ, ʊ] occur in free syllables (ending in a vowel, as in *habitat, educate*), as well as in checked syllables (ending in a consonant, as in *habit, careful*); this is an important difference in distribution between weak- and strong-stressed vowels. Further, many American and most British speakers have weak-stressed [ɪ], less commonly also weak-stressed [ʊ], in final position, as in *city, value*. In our own speech, however, and in most other types of 'General American' pronunciation, these vowels do not occur finally: *city* ends in [ɪ^i̯] (very short, almost [i]), *value* ends in [ʊ^u̯] (almost [u]). These higher and more diphthongal sounds must be analyzed differently; see §9.

Words like *about, sofa, condemn, cautious* contain in the weak-stressed syllables a sound-type that may be written [ə]. This vowel varies considerably with

[15] See LANG. 11.97–8.

different speakers; it is most often mean-mid-central, but may be higher- or lower-mid-central, sometimes even advanced lower-mid-back, almost like [ʌ]. It is an extremely common vowel in all types of English, occurring in both checked and free syllables; in our own speech, as perhaps in most varieties of American English, it is the only weak-stressed vowel that appears in final position (*sofa*). In certain words, speakers and regions differ greatly in the use of [ə] and [ɪ]: thus in *believe, refer,* BB has [ə] while GLT has [ɪ]; but in other words most dialects agree on one vowel or the other: thus *habit, discuss* generally have [ɪ], *sofa, condemn* generally have [ə].

In the weak-stressed syllables of *roses, handed, hardest, exist* we have, like many other American speakers, a vowel different from both [ɪ] and [ə], best described as a slightly advanced higher-mid-central [ə^]. Note these contrasts: *roses* [ə^] : *Rosa's* [ə], *handed* [ə^] : *candid* [ɪ]. The weak-stressed vowels [ə] and [ə^] are in complementary distribution with [ʌ] and [ɛ] (the other strong-stressed vowels having been already paired with corresponding weak ones); their phonetic resemblance to these and their phonetic relation to each other[16] again settle the question of the phonemic grouping: [ə] belongs with [ʌ], [ə^] with [ɛ].

There are then in weak-stressed syllables the same six vowel phonemes as in strong-stressed ones. We can accordingly simplify our transcription and write henceforth the six symbols /i/ (*wínning*), /e/ (*pétted*), /a/ (*abstráct*), /o/ (*concóct*), /ə/ (*abóve*), /u/ (*pút, éducàte*).[17]

8. In weak-stressed syllables we find the syllabic consonants [l̩, n̩] and less commonly [m̩], as in *apple, button, rhythm.* These cannot be simply the phonemes /l, n, m/, since we have contrasts like *gamboling* [l̩] : *gambling* [l], *evening* 'making even' [n̩] : *evening* 'early night' [n], *fathoming* [m̩] : *rhythmic* [m]. Moreover, there is often free (stylistically determined) variation between the syllabic consonant and the sequence [ə] + consonant; thus *idol* is pronounced with final [l̩] or [əl], *mountain* with final [n̩] or [ən] (cf. the New England form with [ɪn]). The phonetic similarity of the nucleus of such syllables is greatest to some allophones of the already established phoneme /ə/, and this lateral- or nasal-colored syllabicity is in complementary distribution with the members of that phoneme. We conclude that [l̩, n̩, m̩] are /əl, ən, əm/. The phoneme /ə/ has then a wide range of allophones: [ʌ] in *ùndóne,* [ə] in *sofa,* syllabicity in *apple, button, rhythm.*[18]

The weak-stressed retroflex vowel [ɚ] in *pertáin, fáther* appears to be similarly structured as a combination of /ə/ + consonant. The consonant, here retroflexion of the vowel itself (but in some dialects a segmental fraction of greater retro-

[16] The weak vowel of *handed* is both higher and somewhat farther front than the weak vowel of *sofa,* just as the vowel of *pet* is somewhat higher and of course considerably farther front than the vowel of *cut.* (The greater frontness of the vowel of *handed* does not appear from the makeshift transcription here used.)

[17] Our vowel symbols differ somewhat from the corresponding symbols used by Bloomfield in the works cited above (fnn. 1, 4). The letters /i, e, u/ have the same value in both systems; but our /a/ = Bloomfield's /ɛ/, our /o/ = his /ɑ/, and our /ə/ = his /o/.

[18] See Swadesh, LANG. 11.150.

flexion following a weakly retroflex vowel), is in complementary distribution with prevocalic /r/ and obviously similar to it phonetically. It follows that [ɚ] is phonemically /ər/. For the treatment of the strong-stressed retroflex vowel of *bird, burr, furry,* see §§11, 13.

9. We turn now to the so-called long vowels and diphthongs. At the outset, a striking difference is to be noted between the distribution of these syllabics and that of the six sound-types already discussed: whereas the latter, when bearing one of the three strong stresses, occur only in checked syllables, the long vowels and diphthongs occur also in free syllables and even in final position (thus *feel, feeling, fee*; *toil, toiling, toy*). This difference in the freedom of occurrence should be borne in mind throughout the following discussion.

In words like *beat, bait, bite, Hoyt, boot, boat, bout* we pronounce vocalic sounds which in a phonetic (impressionistic) transcription may be approximately written as [ɪ^i̯, ɛi̯, aę, ɔi̯, ʊ^u̯, ʌu̯, aǫ]; many other speakers of American English have the same or very similar sound-types. Of these, [ɪ^i̯] and [ʊ^u̯] may vary with all speakers to monophthongal [i·] and [u·] respectively; Midwestern speakers often have minimally diphthongal [i·, u·], and even [e·, o·] corresponding to our [ɛi̯, ʌu̯]. In all dialects the syllabics of such words ending in a voiceless stop are rather short in normal speech, though easily lengthened for emphasis or special effect; under such lengthening the diphthongal quality is regularly more noticeable than otherwise, and often appears even in those dialects which normally pronounce monophthongs in *beat, boot, bait, boat.*

In words ending in a voiced stop, as *bead, laid, hide, enjoyed, food, load, loud,* the syllabics are considerably longer and as a rule more clearly diphthongal, though the variations in this respect are comparable to those observed in the shorter varieties. Before final voiceless spirants, as in *peace, pace, dice, choice, loose, dose, house,* the syllabics are pronounced long by some speakers, short by others; before final voiced spirants, as in *peas, pays, pies, joys, lose, pose, cows,* all speakers pronounce them long. The greatest contrast in length appears when we compare these syllabics in final position and before a cluster of voiceless consonants: *bee, bay, buy, boy, boo, beau, bough* : *beasts, pastes, bites, joists, boosts, posts, ousts.* In all these examples, corresponding sound-types of different length are obviously in complementary distribution.

When the syllable containing one of these long vowels and diphthongs is followed by another syllable (with close juncture), the relative lengths remain as described, and are determined by the character of the intersyllabic consonant or cluster, or by the absence of such a consonant. When there is no consonant, the first syllabic is long and in most dialects plainly diphthongal, and its final element usually forms a clear glide between the two syllables: *being, baying, buying, enjoying, booing, going, allowing.* In these cases the intersyllabic glide is ambisyllabic (i.e. forms phonetically the end of the first and the beginning of the second syllable), so that these words exhibit a syllabic structure exactly parallel to that of such words as *bidding, bedding, padding, nodding, budding, pudding,* where one of the six short vowels is followed by an ambisyllabic voiced stop.

In normal English we do not find in final position any sound-types exactly like initial [j] and [w]. But the final elements of the long vowels and diphthongs, usually [i̯, ɪ̯, e̯] on the one hand and [u̯, ʊ̯, o̯] on the other, not only are in complementary distribution with [j] and [w], but bear them respectively an obvious phonetic resemblance.[19] By the requirements of phonemic theory, we must group these final elements and the two semivowels together, since there is no contrast between them. We can then write the seven diphthongs so far examined as [ɪ^j, ɛj, aj, ɔj, ʊ^w, ʌw, aw], leaving the phonemic character of the prior element still undecided. In favor of the analysis of these diphthongs not as unit phonemes but as combinations of a vowel phoneme with a following semivowel, two facts of distribution, already referred to, are here again to be emphasized: first, that the six short-vowel phonemes occur with a strong stress only in checked syllables, whereas the long vowels and diphthongs occur also in free syllables; and second, that when one of these long vowels and diphthongs occurs before another vowel with no intervening consonant, its final element appears as an ambisyllabic glide, just as an intersyllabic consonant is ambisyllabic when it follows one of the six short-vowel phonemes.

It may be objected that in words like *attáck, redúce, belíeve,* the consonant following the weak-stressed vowel goes with the second syllable (i.e. the onset of stress coincides with the beginning of the consonant), whereas in words like *bìólogy, còérce, òásis,* the diphthong of the first syllable is not divided into a short vowel and a semivowel beginning the next syllable, but instead remains diphthongal with the semivowel still ambisyllabic. Now, /j/ and /w/ may form a special subclass of consonant phonemes, behaving differently from other consonants in syllabic division. But the real answer to this objection is the difference in stress: the first syllables of *bìólogy, còérce, òásis,* and the like are stronger than those of *attáck, redúce, belíeve,* as a comparison with *a-yéarning, awáy* will show. That the intersyllabic semivowel is in these words ambisyllabic bears out our statement that a strong-stressed short vowel cannot end a syllable. As a confirmation we may cite the behavior, under comparable syllabic conditions, of the weak-stressed diphthongs [ɪ^j, ʊ^w] in words like *reálity, duálity*; here the onset of stress does in fact very commonly coincide with the beginning of the semivowel, resulting in pronunciations of the type of [rɪ^ˈjælɪtɪ^j, dʊ^ˈwælɪtɪ^j].

10. Accepting the analysis of the long vowels and diphthongs in *beat, bait, bite, Hoyt, boot, boat, bout,* etc. as consisting of short vowels plus /j/ and /w/,

[19] The articulation of [j] and [w] in normal English may be described as follows. For [j], the tongue moves to the position of a following vowel from any relatively higher and more advanced position, the lips being unrounded at least at the beginning of the glide; for [w], the tongue moves to the position of a following vowel from any relatively higher and more retracted position, the lips being rounded at least at the beginning of the glide. The articulation of the nonsyllabic elements here in question is precisely the reverse of this. For the final elements of the diphthongs in *bee, bay, buy, boy,* the tongue moves from the position of the preceding vowel to a relatively higher and more advanced position, the lips being unrounded at least at the end of the glide; for the final elements of the diphthongs in *beau, boo, bough,* the tongue moves from the position of the preceding vowel to a relatively higher and more retracted position, the lips being rounded at least at the end of the glide.

it remains to decide what the prior elements are, and whether all or any of them are allophones of the six vowel phonemes already established. We may clear the ground by noting that all these doubtful elements are in complementary distribution with all of the six short vowels. The problem can be solved, therefore, only on the basis of phonetic similarity and phonetic interrelationship. We must bear in mind also the principle of economy: the analysis to be preferred is the one which accounts adequately and accurately for all the facts with the smallest number of separate phonemic entities.

It is perfectly clear that the prior elements of [ɪ^j, ʊ^w] are by both criteria to be assigned to the phonemes /i/ and /u/ respectively. Accordingly we shall write *beat, bead, peace, peas, bee, being, reality* and *boot, food, loose, lose, do, doing, duality* as /bíjt, bíjd, píjs, píjz, bíj, bíjiŋ, rijálitij/ and /búwt, fúwd, lúws, lúwz, dúw, dúwiŋ, duwálitij/.

Nor does [ɛj] offer any difficulty. It is obviously /ej/, and we therefore write *bait, paid, base, bays, bay, baying, chaotic* as /béjt, péjd, béjs, béjz, béj, béjiŋ, kejótik (kèjótik)/. For the analysis of the Midwestern monophthongal [e·] as /ej/ compare the parallel treatment of [o·] in the next paragraph.

When pronounced [ʌw] (as it is, approximately, in our speech), the diphthong of *boat* seems to have a prior element phonetically similar to the vowel of *cut*, an allophone of /ə/; the pronunciations [əw, ow, o·w] and the like are susceptible of the same analysis, since we have already observed that /ə/ has a rather wide range of allophones and since the lip-rounding of the prior element in such pronunciations can be most satisfactorily explained as conditioned by the following /w/.[20] Even a monophthongal [o·] of Midwestern speakers is to be analyzed, on the basis of pattern congruity, in the same way.[21] We then write *boat, load, dose, doze, go, going, cooperate, polo* as /bə́wt, lə́wd, də́ws, də́wz, gə́w, gə́wiŋ, kə̀wópərèjt, pə́wləw/.

[20] That the first vowel of *away* is not similarly rounded is due to a difference in syllabification; cf. §9, last paragraph.

[21] In dialects that have monophthongs instead of diphthongs of this type, we encounter four fairly uniform long vowels, [i·, e·, u·, o·], in words like *beat, bait, boot, boat*; in words like *bead, paid, food, load* and *bee, bay, too, go*, the vowels tend to be less uniform; and in words like *being, baying, doing, going* there is often a clear glide, [j] or [w], between the two vowels. The total pattern is best revealed if we state that the long vowels of *beat, bait, boot, boat* are respectively /ij, ej, uw, əw/; in such a dialect the allophones of the two phonemes in each of these four combinations can be described by a statement such as this: /i, e, u, ə/ combine with the homorganic semivowel—/i, e/ with /j/, /u, ə/ with /w/—so that the phonetic result is an approximation of the two elements to each other; that is, /i, e/ are raised while /j/ is lowered (in comparison with the allophones in *pit, pet, yes*), and /u, ə/ are both raised and rounded while /w/ is lowered.

If a language has a pattern for combinations of phonemes such as /Vj/ and /Vw/, and if some of the possible combinations are lacking while at the same time certain phonetically pure long vowels are present which are not paralleled by similar vowels elsewhere in the language, the requirements of phonemic theory (complementary distribution, economy in the total number of units, etc.) force us to analyze these long vowels as the lacking combinations of vowel plus semivowel, the identifications resting on phonetic similarity and pattern congruity. In the present case, [i·] is obviously more similar to /i/ + /j/ than is [e·], and [e·] is more similar to /e/ + /j/ than it is to /i/ + /j/, and [i·] is higher than [e·] just as /i/ is higher than /e/; the relations among the back vowels are parallel.

The principle of pattern analysis here invoked has never been better stated than in the

The syllabic of *bout, loud*, etc. in many varieties of English begins with a low vowel rather definitely front, though in other varieties the beginning is more retracted; thus GLT has a prior element which is sometimes almost [æ], whereas BB has [a]. Provided that the beginning of the diphthong is more advanced than the vowel of *pot*, as it is in most varieties of English,[22] the phonetic relation of this prior element to the beginnings of the other diphthongs and its phonetic resemblance to the vowel of *pat* (which is admittedly not always very close) suggest the analysis of this diphthong into /a/ plus /w/; so that we can write *bout, loud, house, cows, cow, allowing, however* as /báwt, láwd, háws, káwz, káw, əláwiŋ, hàwévər/. But many speakers have a prior element here which is much farther back, sometimes even raised almost or quite to the vowel of *cut*. For these speakers, is the syllabic of *bout* perhaps /ow/ or even /əw/? If it is /əw/, then our analysis of the diphthong in *boat* breaks down, except for those dialects —e.g. Nova Scotian—where *a boat* and *about* sound alike: both probably /əbə́wt/. In standard dialects which pronounce *a boat* as [əˈbowt] and *about* as [əˈbʌwt] the relation of these diphthongs to each other and to the short vowels makes it probable that *boat* is still /bə́wt/ and that *about* is /əbówt/; the allophone of /o/ is here a somewhat higher and more centralized vowel than in *pot, rock*, etc. The situation is complicated by the fact that many speakers in our Southern states have [æw] in *about* and [ɔw] or [ow] in *boat*, but pronounce *bought* with a diphthong of the type of [ɒw]. Here we have the three combinations /aw, ow, əw/ side by side, in *bout, bought*, and *boat* respectively. But sometimes the phonemic interpretation is not so easy. Thus, there are some varieties of Southern speech that show strikingly different pronunciations of the diphthong in question before a voiceless and before a voiced consonant: *house* may have [ʌw], *houses* [æw].[22a] For the present we are content to leave such problems unsolved.

To analyze the syllabic in *bite* we proceed as before. There are, as always, varying pronunciations: most standard speakers have a low-central vowel as

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following passage by Swadesh, LANG. 13.10: 'The general criterion of phonemics is relativity within the totality of the given language. Sounds must be classified according to similarities of phonetic and permutational characteristics. If in this procedure we seek to find the maximally simple, self-consistent, and complete total formulation, we reduce the subjective element in phonetics [emphasized by Bloomfield, Language 84]. Trying to be objective is not likely to succeed fully without an intelligent understanding of the nature of phonetic systems and a constant effort to see each detail in its relation to every other detail. There is a real danger that pattern-conscious investigators may distort the facts in order to make the pattern seem more symmetrical, but this danger is small in comparison with the danger of distorting or failing to notice facts because of giving no attention to pattern.'

[22] And provided that in those dialects where *pot, rod*, and the like have a rounded vowel, the beginning of the diphthong in *bout* is unrounded.

[22a] On this diphthong in Virginia speech see E. F. Shewmake, MLN 40.489 ff. (1925); id., English Pronunciation in Virginia 24 (n.p., n.d.); Argus Tresidder, Notes on Virginia Speech, American Speech 16.113-6 (1941). The findings of the Linguistic Atlas of the South Atlantic States were presented in a paper (The Diphthong *au* in Virginia) by Guy S. Lowman Jr., read before the Practical Phonetics group of the Modern Language Association at the 52d annual meeting, 1935.

the prior element; some have a more advanced variety; others, for example in New York City and Philadelphia, have a vowel noticeably farther back (cf. also the comic Irish 'Oi' for *I*). We believe that the best analysis for standard speakers is /aj/: as in the diphthong /aw/, the allophone of /a/ is here lower and more retracted than the vowel of *pat*; and we write *bite, bide, vice, buys, buy, buying, biology* as /bájt, bájd, vájs, bájz, báj, bájiŋ, bàjóləǰij/. For some speakers, however, a better analysis will be /oj/, especially in those substandard dialects where *nine* rimes with *join*.

This leaves the syllabic of *boy*. In the speech of those who distinguish the vowel of *bomb, bother* from that of *balm, father*, the allophone of /o/ in the former pair of words is a low-back or retracted low-central vowel, with or without lip-rounding (in American English generally unrounded except in eastern New England). In *boy, boil, noise*, etc. the prior element is always a back vowel and nearly always rounded in standard speech, but varies in height (and correspondingly in the degree of rounding) from higher-low to higher-mid, the lower-mid vowel [ɔ] being probably the most common variety. We suggest, with some hesitation, that the analysis which best fits the situation is /oj/, with the allophone of /o/ defined here as a rounded vowel. For speakers who distinguish *boy* and *buy*, as all standard dialects do, the respective analyses /bój/ and /báj/ are certainly correct in pattern, since *boy* regularly has a more retracted vowel than *buy*, just as *pot* has a more retracted vowel than *pat*. Midwestern speakers who have a short rounded back vowel in *wash, watch*, etc., and Eastern speakers who normally pronounce a rounded back vowel in all words of the type of *pot, pod, bomb*, will have no difficulty in identifying this vowel with the prior element of the diphthong in *boy*. Accordingly we shall write *Hoyt, Boyd, voice, noise, boy, toying* as /hójt, bójd, vójs, nójz, bój, tójiŋ/. But in substandard New York City speech, where *bird* and *Boyd* are identical and where *bide* has a back vowel, the most satisfactory analysis is probably /bə́jd/ for *bird* and *Boyd*, and /bójd/ for *bide*.[23]

11. Syllabics preceding the consonant phoneme /r/ constitute a separate problem. In the variety of English that we both use (which makes, as we have mentioned, a nearly maximum number of distinctions among the syllabic phonemes), all of the six short vowels appear with strong stress before the com-

[23] The analysis made in §10 is essentially the same as that described by Bloomfield in LANG. 11.101, fn. 8, as 'the customary alternative statement'. Except for Bloomfield's summary, however, we know of no place where such a statement has appeared. Our analysis differs from Bloomfield's in the following respects: in his treatment, the vowels of *balm* and *law* are considered unit phonemes, written /a, ɔ/; then the syllabics of *buy, boy* are analyzed as /aj, ɔj/ respectively, and the syllabic of *cow* as /aw/. As appears from §§11, 12 below, we analyze the syllabics in *balm* and *law* differently, as non-unitary sequences of phonemes; this enables us to deal with the diphthongs in *buy, boy, cow* more simply in relation to the six short vowels. Cf. also Bloomfield, ibid. 100, last two sentences and fn. 7.

It may be noted here that we regard /juw/ as a normal sequence of three phonemes, in no way structurally different from the combinations /ruw, wuw, waj/ in *prove, woo, wine*; this analysis is confirmed by such series as *Yale* : *yowl* : *yule, yeoman* : *Yuman*, and the like. In addition to the word *piano* with /pj/ before a syllabic other than /uw/ (Bloomfield, ibid. 101, fn. 8), we may cite the local pronunciation of *Pueblo* (Colorado) as /pjébləw/, and the Southern pronunciation of *car, garden*, and the like with /kj, gj/.

bination /r/ plus weak-stressed vowel: *mirror, merry, marry, sorry, hurry, jury* /mírər, mérij, márij, sórij, hə́rij, j́urij/. GLT usually pronounces *hurry* with a long retroflex vowel, as [ˈhəˑrɪ^i̯], but also uses the form with [ʌ]; BB says [ˈhʌrɪ^i̯]. Note that in our speech, as in that of many others, *Mary* differs from both *merry* and *marry*—[ˈmæˑə̯rɪ^i̯] (GLT) or [ˈmɛˑə̯rɪ^i̯] (BB) : [ˈmɛrɪ^i̯, ˈmærɪ^i̯]; *boring* is [ˈbɔ^ˑə̯rɪŋ]; and the following pairs do not rime: *dearer* and *mirror* [ˈdɪ^ˑə̯rəˑ : ˈmɪrəˑ], *starry* and *sorry* [ˈstɑˑrɪ^i̯ : ˈsɑrɪ^i̯], *furry* and *hurry* [ˈfəˑrɪ^i̯ : ˈhʌrɪ^i̯], *poorer* and *juror* [ˈpʊ^ə̯rəˑ : ˈj́ʊrəˑ]. Compare also the series *fierce, scarce, farce, horse, purse, bourse* [fɪ^əs, skæəs (skɛəs), fɑəs, hɔ^əs, pəˑs, bʊ^əs] and *beer, bear, bar, bore, burr, boor* [bɪ^ˑəˑ, bæˑəˑ (bɛˑəˑ), bɑˑəˑ, bɔ^ˑəˑ, bəˑ, bʊ^ˑəˑ]. It is clear that these two series contain the same syllabic phonemes as the series *dearer, Mary, starry, boring, furry, poorer*, and that these phonemes, while bearing a pattern relation to each other similar to that of the six short vowels, are phonemically different from them.

Before considering these differences, we can point out that in those varieties of English where orthographic final and preconsonantal *r* is pronounced as retroflexion, this is an allophone of the /r/ phoneme (cf. §8), so that words like *beer, bear*, etc. have /r/ as their final phoneme. The distribution of this retroflexion is complementary with the frictionless [r] initially and between vowels, the fricative [r] after [t, d], and the other obvious allophones of this consonant phoneme. The important point here is that *burr* also must contain some kind of rather long vowel followed by /r/; to analyze the syllabic of *burr, cur, purse, worm*, etc. as a special '*r*-vowel' phoneme is theoretically bad, because it fails to give maximum economy in the statement of the number of phonemes and distorts the pattern clearly established by the parallel series just illustrated.

It is of course no accident that the three series *dearer, Mary, starry, boring, furry, poorer*; *fierce, scarce, farce, horse, purse, bourse*; *beer, bear, bar, bore, burr, boor* each exhibit the same number of contrasting categories as the short-vowel series of §7. The conclusion is inescapable that the syllabics of these three series consist phonemically of the six short vowels plus a lengthening element, which we may write provisionally with a raised dot. We can decide at once that *dearer, fierce, beer* are /dí·rər, fí·rs, bí·r/ and that *poorer, bourse, boor* are /pú·rər, bú·rs, bú·r/. If we compare *dearer* to *mirror* and *poorer* to *juror*, the parallel contrast between *furry* and *hurry* shows that *furry, purse, burr* are /fə́·rij, pə́·rs, bə́·r/. The analysis of the remaining words is clear from the pattern relationship: *Mary, scarce, bear* are /mé·rij, ské·rs, bé·r/; *starry, farce, bar* are /stá·rij, fá·rs, bá·r/; *boring, horse, bore* are /bó·riŋ, hó·rs, bó·r/. We note immediately that the allophone of /a/ before the lengthening element is phonetically very similar to the allophones of the same phoneme before /j/ and /w/ (§10), and that the allophone of /o/ before this element is similar to its allophone before /j/; the phonetics and the pattern analysis therefore agree, as they should. The element /e·/ shows an allophone of /e/ which in the pronunciation of some speakers is close to the /a/ of *pat*; but the analysis is supported by two considerations:[24] many other speakers (including BB) pronounce words like

[24] In addition to the not irrelevant fact that when we have analyzed the other syllabics, there is no other category left for the syllabic of *bear*.

Mary, scarce, bear with a syllabic that is much closer to the vowel of *pet*; and in either case, the phonetic relation of /e·/ to the next-higher vowel in the series /i·/ and to the next-lower /a·/ is exactly parallel to the relation of /e/ to /i/ and /a/ respectively in *pet, pit, pat.*

The elements /i·/ and /u·/ do not contrast with /ij/ and /uw/ before /r/, as the latter do not appear in that position. But /e·/ contrasts with /ej/ in several dialects: GLT has /ej/ in *eyrie* (admittedly a book word); BB has it in *pharaoh* (here contrasting with /e·/ in *faro*); and in eastern New England there is normally a sharp distinction between words like *Mary, dairy, Sarah* with [ej, ɛ^j] and words like *bearing, fairest* with [ɛə̯, æə̯].[25] Many speakers in all parts of the country distinguish between *nor* and *bore, for* and *four, horse* and *hoarse, morning* and *mourning,*[26] etc. by pronouncing the second word in each pair with a closer vowel of the type of [o·ə̯]; since this is in complementary distribution with the diphthong /əw/ in *boat* and phonetically very close to it, it seems reasonable to analyze the words with [o·ə̯] as /bə́wr, fə́wr, hə́wrs, mə́wrniŋ/, etc. (For a possible different interpretation see §13.)

Other combinations of vowel plus semivowel before /r/ may be illustrated by *Irish* /ájriš/, *Moira* /mójrə/, *cowrie* /káwrij/. In *hire* and *flour* both of us pronounce two syllables, /hájər, fláwər/, just as in *higher* and *flower*; in the dialect of those who distinguish these words, *hire* and *flour* are /hájr, fláwr/. In our speech the combination /awr/ occurs with medial stress in the word *òursélves*, and /ajr/ varies with /ajər/ in *Ireland.*

For many speakers there are no contrasts at all between /i·, u·/ and /ij, uw/, so that /i·/ and /u·/ can be disposed of simply by equating them to /ij/ and /uw/. But even for such speakers we have still to account for /e·, a·, o·, ə·/, which are found in all the '*r*-pronouncing' dialects of English. From the general pattern it would appear that the element heard as a lengthening of the vowel, often with the addition of a glide in the direction of [ə], may be some kind of semivowel. Before deciding its phonemic interpretation, we must look for evidence of its existence elsewhere than before /r/.

12. Vowels almost identical with the syllabics of *bar* and *bore* appear respectively in words like *balm, pa, father* and in words like *dawn, long, law.* (In the speech of those who distinguish between *for* and *four, horse* and *hoarse,* etc., the vowel of *law* is closer to that of *for, horse.*) The element /i·/ contrasts with /ij/ in BB's pronunciation of *idea* and *bee* [aɐ̯ˈdɪ^ə̯ : bɪ^i̯], though it is rare except before /r/; and /u·/ contrasts with /uw/ in his pronunciation of *St. Louis* (the city) and *loose* [lʊə̯s : lʊ^ʉs]. The common American English word spelled *yeah* or *yeh* has a syllabic almost identical with that of *bear.* We have evidence, then, for the five 'long vowels' /i·, e·, a·, o·, u·/ in other positions than before /r/.[27] The two low vowels /a·, o·/ are common in nearly all types of English;

[25] Cases like *hay-rick, pay-roll* with /ej/ are beside the point here, since these words have open juncture before the /r/. But in New England speech both *dairy* with /ej/ and *bearing* with /e·/ have close juncture.

[26] See Hans Kurath, *Mourning* and *Morning,* Studies for William A. Read 166–73.

[27] By manufacturing an example ad hoc, it is possible to adduce evidence also for /ə·/. If the exclamation *huh* may be used, like *hem* and *haw,* as a verb meaning 'to say *huh*',

/i·, u·/ are rare, at least in American English. The vowel /e·/ is also rare in the standard dialects, but is an important element in those varieties of English (like GLT's) which distinguish between *bad, jazz, can* 'tin container', *halve, adds* with [æ·ə̯] and *bade, has, can* 'am able', *have, adze* with [æ] (cf. §7). In such dialects the [æ·ə̯] of *bad, adds*, etc. is phonetically and thus also phonemically the same as the syllabic of *Mary, scarce, bear, yeah*, that is /e·/. As for /ə·/, this occurs frequently in the mixed dialect of those who have both '*r*-pronouncing' and '*r*-less' forms in their speech—i.e. who pronounce *bird, purse*, and the like sometimes with and sometimes without retroflexion.

What is the phonemic interpretation of the lengthening element which we have been writing with a raised dot? It cannot be any of the vowels, not even /ə/ (in spite of the phonetic resemblance), since there is no example anywhere else in the total pattern for two vowels in succession. It functions like the two semivowels /j/ and /w/, and like these must be reckoned a consonant—either identical with one of the twenty-four consonants listed in §6, or a separate phoneme.

The only consonant with which this element is in complementary distribution is /h/: /h/ never occurs immediately after one of the six short vowels with strong stress[28] or before another consonant, but the lengthening element occurs precisely here and nowhere else.

Is there any phonetic similarity between this element and [h]? In English pronunciation, [h] is a voiceless sound (occasionally, as between vowels, a murmured sound) whose tongue and lip position anticipates either completely or approximately that of the following voiced sound;[29] when the anticipation is only approximate, the tongue position of [h] tends to be more centralized (more nearly 'neutral') than that of the following sound. The lengthening element can be accurately defined as a voiced continuation of a preceding vocalic sound with either the same or a progressively centralized tongue position. It appears that these two elements, considered in relation to contiguous sounds, are strikingly similar.[30] We therefore group the two together in one phoneme, written /h/;[31] and we write *yeah, pa, law* as /jéh, páh, lóh/. BB's *idea* and *St. Louis*

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then its preterit is *huh'd*. This *huh'd*, in our pronunciation of it, does not rime with *cud*, but has a distinctly longer vowel. We conclude that *cud* has /ə/ but that *huh'd* has /ə·/.

[28] Pronunciations of the Irish names *Flaherty* and *Doherty* with a short stressed vowel plus [h] must be regarded as outside the phonemic system of normal English, like the nasal vowels of such French words as *fiancée* and *lingerie*.

[29] Cf. Kenyon, Amer. Pron.[6] §§37, 200. Kenyon's description of [h] involves a stress pulse coinciding with the beginning of the sound; but we can see no difference between the stress pulse in *ahéad* and the one in *attáck*. No one has ever considered such a pulse essential to the articulation of [t] or any other consonant.

[30] Cf. the demonstration of the similarity between /j, w/ and the diphthongal glides in §9, fn. 19. The fact that [h] is voiceless while the lengthening element is voiced need not disturb us. Note that /h/ is the only spirant phoneme in English which does not (in Trubetzkoy's terminology) take part in the correlation of voice—in clearer terms, it is the only voiceless spirant which is not phonetically paired with a voiced counterpart.

[31] It is scarcely necessary to point out that in a phonemic transcription the symbols need not in every case have the values traditionally assigned to them in conventional spelling or in phonetic notation. Naturally we do not suppose that words like *pa, law* end in the

are /àjdíh, sèjnt-lúhs/; GLT's *bad, adds* are /béhd, éhdz/; *balm, father, dawn, caught* are /báhm, fáhðər, dóhn, kóht/; the *r*-less pronunciation of *bird, purse* in the speech of those who use forms both with and without retroflexion is /bə́hd, pə́hs/.

13. We return now to the syllabics before /r/. The words *Mary, scarce, bear; starry, farce, bar; boring, horse, bore; furry, purse, burr* present no further problem: They are to be written /méhrij, skéhrs, béhr; stáhrij, fáhrs, báhr; bóhriŋ, hóhrs, bóhr; fə́hrij, pə́hrs, bə́hr/.

In words like *part, farce; port, horse; pert, purse,* where the postvocalic /r/ is followed by a voiceless consonant, many speakers always or sometimes pronounce retroflex vowels noticeably shorter than the syllabics of *card, cord, bird.* These might perhaps be explained as consisting simply of the short vowels /a, o, ə/ + /r/, with the covering statement that the allophones of these vowels before final and preconsonantal /r/ differ in length but not in quality from the allophones before /hr/. But there is usually no possibility of contrast between the longer and the shorter allophones; and it seems preferable to regard all the syllabics before final and preconsonantal /r/ as consisting of vowel plus semivowel.

We have stated (§11) that there is no contrast between /ih, uh/ and /ij, uw/ before /r/ in words like *beer, boor.* The syllabics in these words might be written /ih, uh/, following the pattern in *bear, bar, bore, burr*; but we have observed that in the latter set of words a following /hr/ noticeably affects the phonetic quality of the vowel allophone, whereas in our pronunciation of *beer, boor* [bɪ^·ə̯, bʊ^·ə̯] the vowel is not strikingly different from the allophones in *pit, put* or in *beat, boot.* There may sometimes, however, be a need for distinguishing between /ih, uh/ and /ij, uw/ even in this position. Speakers who pronounce *poorer, tourist* and the like with [ʊ^·ə̯r] before the weak-stressed vowel, but *poor, your* and the like with [o^·ə̯], may have /uw/ in the former but /uh/ in the latter; and the syllabic of *bore, four, hoarse, mourning,* in the speech of those who distinguish these words from *nor, for, horse, morning,* may also be /uh/. However, the analysis of this syllabic as /əw/ proposed in §11 seems to be more obvious and is to be preferred. In our own speech, similarly, it seems preferable to use /ih, uh/ only in such rare cases as BB's *idea, St. Louis,* and to write /ijr, uwr/ instead of the possible alternatives /ihr, uhr/ in *fierce, beer* and *bourse, boor.*

In most types of Midwestern speech the situation of the syllabics before /r/ is greatly simplified. Here *mirror* rimes with *dearer, hurry* with *furry,* and *juror* with *poorer*; *Mary, merry,* and *marry* are the same. The only analysis required

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'puff of breath' with which the letter *h* is usually associated. There is no pressing reason, really, for using *h*: the raised dot would serve just as well, provided that we used it also for the initial phoneme of words like *hat, hill, hay.* It might even be wiser to cut loose from all phonetic association by using a symbol like ɻ; in that case *pa, law, hill, hall* would appear as /paɻ, lóɻ, ɻíl, ɻóɻl/. Readers who are disturbed by the looks of our phonemic transcription—and we admit that it looks unfamiliar—should consider Bloomfield's definitive statement on the choice of symbols, LANG. 11.98, fn. 3.

for these words is then /mírər, dírər; hə́rij, fə́rij; ǰúrər, púrər; mérij/. *Beer, bear, bar, for, burr, boor*, correspondingly, are /bír, bér, bár, fór, bə́r, búr/ (*bore* is usually /bə́wr/); *starry* is /stárij/, which is unambiguous because *marry*, like *merry*, is /mérij/; and *sorry* is /sórij/, which again is unambiguous because *boring* is /bə́wriŋ/. The simplicity of this pattern is disturbed in the speech of many educated Midwesterners who have adopted at least some of the additional distinctions found in Eastern American English; by doing so they have changed their phonemic system so as to require all syllabics before /r/ to be analyzed as vowel plus semivowel, even when these differ little or not at all phonetically from the corresponding syllabics of other Midwestern speakers.

14. In those dialects of English where orthographic *r* in final position and before consonants is not pronounced as retroflexion (the '*r*-less' dialects), there are two alternative interpretations of the syllabics in *beer, bear, bar*, etc. and in *dearer, Mary, starry*, etc. Either an original /Vr/ has become /Vh/, probably through the intermediate stage /Vhr/; or else /Vr/ and /Vh/ are still distinct, so that /r/ must be reckoned a fourth semivowel.

The former situation perhaps obtains in the standard pronunciation of Southern England. If the difference between postvocalic /r/ and /h/ has here been eliminated, we must analyze all words with final and preconsonantal orthographic *r* as having /h/, with /r/ restricted to pre- or intervocalic position: *star* is /stáh/, *starry* is /stáhri/; *dear* is /díh/, *dearest* is /díhrist/, and *dear old fellow* is /díhrə̀wld . . . /.[32]

The second possibility (already suggested in footnote 32 for Southern British English) is illustrated by some of the '*r*-less' dialects of New York City. Here we find again the distinction referred to in §§7, 12, between *had, bade, can* 'am able', *adze* with /a/ and *bad, can* 'tin container', *adds* with /eh/. Since *bared*, though pronounced without retroflexion, is different from *bad* /béhd/, we analyze it as /bérd/, with postvocalic /r/ functioning as a fourth semivowel. Further, educated New Yorkers of the younger generation commonly pronounce *bird, third, first*, and the like (the words which in substandard New York speech have /əj/, see §10 end) with a retroflex vowel, but *burr, sir, fur* and also *burred, furred, occurred* with a non-retroflex vowel of the same general type as the one used by British speakers. For this dialect *bird* is /bə́rd/ or perhaps even /bə́hrd/; *burred* is /bə́hd/. For the other syllabics before orthographic *r* there is no such contrast: *beer, bar, bore, boor* are probably /bíh, báh, bóh, búh/, but they may be /bír, bár, bór, búr/; further study of the dialect is needed to settle the choice.

[32] The combinations /ih, eh, oh, uh/ are of course the 'centring diphthongs' described by Daniel Jones, Outline of Engl. Phon.[3] 108–14. A point which does not appear from Jones's practical treatment is that the vowels in *palm* and *bird* (described ibid. 72–5 and 86–9) are structurally parallel to these diphthongs. The relation of the diphthong in *course* to the long vowel in *cause* needs to be further studied. If the two are different, it may be that *course* has /or/ and *cause* has /oh/; and in that case all the centering diphthongs would be /Vr/, so that *starry, dearest, dear old* would be /stárri, dírrist, dírrə̀wld/. Jones also mentions a long [æ·] in *bad, sad*, contrasting with short [æ] in *lad, pad* (ibid. 218). Since *bad* is different from *bared*, the latter may again have /Vr/ while the former has /Vh/: *lad, bad, bared* would then be /lád, béhd, bérd).

15. The pattern of English syllabic phonemes can be summed up as follows. There are six vowels; with weak stress they occur in any kind of syllables, but with strong stress (loud, reduced loud, or medial) only in checked syllables: according to the analysis here presented, every syllable containing a strong-stressed syllabic ends in a consonant phoneme. Among the consonants there are three (in some dialects four) forming a special group which we have called semivowels; they are defined as a group by the fact that they call for special allophones of the vowels which precede them, and that they combine with such vowels to form what are phonetically long vowels and diphthongs. Structurally these compound syllabics are /VC/, so that *buy, bough, bah* /báj, báw, báh/ exhibit the same structure as *bat* /bát/; but they appear more freely than other combinations of vowel plus consonant, being found even before clusters of three and four other consonants, as in *wilds, waltzed* /wájldz, wóhltst/. With weak stress some of these combinations are rare, and their distribution is limited also in other ways.

The table shows the syllabic phonemes and phoneme clusters distinguished in our own varieties of English (18 not followed by /r/ + 16 followed by /r/). Dashes represent other possible combinations, several of them found in other dialects.[33] The columns are lettered and the rows numbered for reference in the notes that follow.

		A	B	C	D	E	F	G	H
		/V/	/Vj/	/Vw/	/Vh/	/Vr/	/Vjr/	/Vwr/	/Vhr/
1.	/i/	*pit*	*beat*	—	*idea*	*mirror*	*beer*	—	—
2.	/e/	*pet*	*bait*	—	*yeah*	*merry*	*eyrie*	—	*bear*
3.	/a/	*pat*	*bite*	*bout*	*balm*	*marry*	*Irish*	*cowrie*	*bar*
4.	/o/	*pot*	*Hoyt*	—	*law*	*sorry*	*Moira*	—	*bore*
5.	/ə/	*cut*	—	*boat*	*huh*	*hurry*	—	—	*burr*
6.	/u/	*put*	—	*boot*	—	*jury*	—	*boor*	—

A1, 2, 3, 5, 6, B1, 2, 3, 4 /i, e, a, ə, u, ij, ej, aj, oj/ hold for all types of standard English known to us. C3, 5, 6, D4 /aw, əw, uw, oh/ probably hold for most types, but see §10 and C1 below.

A4 /o/ is less common than the other simple vowels in Midwestern American. BB has it only before voiceless stops, voiceless spirants, nasals, and liquids (*cop, cot, rock, crotch, doff, possible, josh, bomb, honest, gong, holly, sorry*), replacing the corresponding phoneme of Eastern American before other consonants by /ah/; other speakers[34] have /o/ in only a few words, chiefly after /w/ (*wash, Washington*). In GLT's Eastern dialect, on the other hand, /o/ does not occur after /w/ (so that *wash* is /wáhš/), but is common elsewhere and contrasts with /ah/ in

[33] We do not claim that the compartments of this table will accommodate all the syllabic phonemes of all dialects of English, though we believe that the exceptions will be very few and in each dialect statistically unimportant. Thus, BB pronounces *gonna* (*I'm not gonna do it*) with a short vowel in the first syllable which is phonetically very close to the vowel of German *Sonne*. Though it occurs nowhere else in his pronunciation of English, it must perhaps be reckoned an independent phoneme parallel to the six short vowels of §7. Cf. fn. 14.

[34] Among them Dr. C. F. Hockett, who has given us our information on this point.

bother /bóðər/ : *father* /fáhðər/; §§7, 12. In New England and Southern British English, simple /o/ is phonetically a rounded vowel; in most types of American English it is unrounded.

B5 /əj/ in the typical New York City pronunciation of *bird*, and in the substandard New York City pronunciation of both *bird* and *Boyd*; §10. A similar pronunciation, requiring the same analysis, occurs in parts of southern New England, New Jersey, the South, and elsewhere.

B6 /uj/ in a monosyllabic pronunciation of *ruin* and in a pronunciation of *buoy* different from *boy*; perhaps also in the Scotch pronunciation of *good* as [gy·d] or the like.[35]

C1 /iw/ in *mute, beauty, pew, new, due, tune, cute*, etc., pronounced with [ɪu̯] by many American speakers (but rarely in the South), corresponding to the combination /juw/ of other speakers.[36] A minimal contrast is found in some dialects between *ewe* /ɨw/ or /jɨw/, *yew* /jɨw/, and *you* /júw/. This may also be the analysis, instead of /uw/, of the high-central rounded vowel (sometimes slightly diphthongal) used by many Southern speakers, especially in the Virginia Piedmont, in words like *boot, moon, do*, etc.

C2 /ew/ may be the proper analysis, instead of /əw/, for the diphthong in *boat* in the extreme type of Boston and London English, where the prior element is an advanced central or even a front vowel.

C4 /ow/ in Southern American *law, dawn*, etc.; §10.

D1 /ih/ in a dissyllabic pronunciation of *idea* and *theater* (both perhaps more commonly with /ijə/ in American English); §13. Also in the *r*-less pronunciation of *beer, fierce*, etc.; §14.

D2 /eh/ not only in *yeah* but also in *bad, can* 'tin container', *jazz, adds* in those dialects which distinguish these words from *bade, can* 'am able', *has, adze*; §12. Also in London English *bear, scarce*; §14 and fn. 32.

D3 /ah/ probably also in London English *bar, farce*; §14. A few types of American English appear to lack this combination, pronouncing *palm, pa, father*, etc. (and also *bar, starry*, H3) with the syllabic of *law, dawn* (and *for, horse*, H4).

D5 /əh/ in New York City and London English *burr, furred*; §14. In 'General American', if *huh* is ruled out as an interjection, this combination appears only before /r/, H5.

D6 /uh/ in a common local pronunciation of the city name *St. Louis*; §12. Further, in the *r*-less pronunciation of *boor, bourse*; §14. The 'New England short *o*' is also to be analyzed as /uh/: this is a weakly rounded, centralized higher-mid-back vowel, often followed by a centering off-glide, which occurs in some New England pronunciations of such words as *whole* (but not *hole*), *road* (but not *rode, rowed*), *coat, home, stone*.[37]

[35] Joseph Wright, The English Dialect Grammar 465 (Oxford, 1905), lists the following pronunciations of *good* which may be analyzed as containing /uj/: [gʏd] Sh.I. sn. & nm.Sc., [gy·d] wm.Sc. n.Cum. e.Dev., [gʊɪd] sw. & ms.Yks.

[36] This is the diphthong transcribed [ɪu] and described for his own dialect by Kenyon, Amer. Pron.[6] §§341–55.

[37] On the 'New England short *o*' see Handbook of the Linguistic Geography of New England 3 (and Chart 1), 128 (§17).

E1, 2, 3, 4, 5, 6 /ir, er, ar, or, ər, ur/ also in Midwestern *beer, bear, bar, for* (but not *bore*), *burr, boor*; §13.[38] Speakers who normally have only /VSr/ (where S = any semivowel) may also have a few cases of /Vr/. GLT pronounces the name of Newark (his native city) [nuərk] and uses [nuʌ·ərk] only in imitating the pronunciations of strangers; the former must be /núrk/, while the latter is the expected /núwrk/.

F1 /ijr/ may be always /ihr/, H1; §13.

F2 /ejr/ rare except in New England speech; §11.

F3 /ajr/ rather rare; found in some pronunciations of *hire, higher*, etc.; §11.

F4 /ojr/ very rare. (Is *Moira* the only example?)

F5, 6 /əjr, ujr/ probably nonexistent, unless /ujr/ occurs in Scotch *poor, sure*, and the like; cf. B6 above.

G1 /iwr/ in *pure, bureau, furious*, etc., in those dialects that have /iw/ for the more general /juw/; cf. C1 above.

G2 /ewr/ probably nonexistent.

G3 /awr/ rather rare; found in some pronunciations of *flour, flower*, etc.; §11.

G4 /owr/ possibly in those dialects that have /ow/ in *law*, but probably there only when the /r/ is followed by another vowel, as in *Lawrence*; cf. C4 above.

G5 /əwr/ in *bore, four, hoarse, mourning*, etc., in dialects that distinguish these words from *nor, for, horse, morning*; §§11, 13.

G6 /uwr/ may be always /uhr/, H6; §13.

H1 /ihr/ perhaps always instead of /ijr/, F1 above.

H2, 3, 4, 5 /ehr, ahr, ohr, əhr/ probably not found in '*r*-less' dialects. Note that in many varieties of English /ohr/ occurs in *nor, for, horse, morning* but not in *bore, four, hoarse, mourning* (cf. G5 above).

H6 /uhr/ perhaps always instead of /uwr/, G6 above.

16. We can now draw up a final statement of the phonemic functioning of the vowels and semivowels in our own dialects of English. To fit other dialects, parts of this statement will need revision; but it seems significant and convincing that the syllabic phonemes of all English dialects known to us (with such unimportant exceptions as are referred to in footnote 33) can be accommodated without forcing in the general system here set up. To interpret the syllabic phenomena of any dialect in terms of this system, it is only necessary to take account of the phonetic data (including facts of distribution) and of the consequent pattern relationships.

We arrange the simple vowels according to the phonetic description of their chief allophones:

	Front	Back
High	i	u
Mid	e	ə
Low	a	o

[38] /ir, er, ar, or, ur/ may also be the correct analyses, instead of /ih, eh, ah, oh, uh/, for the *r*-less pronunciation of *beer, bear, bar, bore, boor*; §14, fn. 32.

Before a semivowel, the vowels undergo certain allophonic changes which can be stated, in terms of this diagram, as follows. Before /j/, the high- and mid-front vowels /i, e/ are slightly raised; the low vowels /a, o/ are shifted counterclockwise. Before /w/, the high- and mid-back vowels /u, ə/ are slightly raised and rounded; the low-front vowel /a/ is retracted. Before /h/, the mid and low vowels /e, a, o, ə/ are shifted counterclockwise.

These facts allow us to establish five overlapping groups which define the occurrence of vowel allophones before a following semivowel:

1. The higher vowels /i, e, ə, u/ are raised before a homorganic semivowel.
2. The higher-front vowels /i, e/ are raised before /j/.
3. The higher-back vowels /u, ə/ are raised and rounded before /w/.
4. The lower vowels /e, a, o, ə/ move counterclockwise before /h/.
5. The low vowels /a, o/ move counterclockwise before /j/ (and /w/).

MISCELLANEA

THE EPICHARMIAN TITLE Λόγος καὶ Λογίνα

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[The suffix of Λογίνα is not 'Siciliote Greek' but a facetious borrowing ad hoc from Italic; cf. Lat. *gallīna*.]

Λόγος καὶ Λογίνα is the title of one of the comedies of Epicharmus 'of Syracuse' (beginning of the 5th century B.C.). It has come down to us together with a few fragments which are much too insignificant to permit a safe guess as to what the title exactly means. Yet it is agreed that the implication must be something like 'Mr. and Mrs. Λόγος', whatever Λόγος may refer to and whatever rôle his female counterpart may play.[1] Such an interpretation is based on the assumption that from a noun or name in *-os* a corresponding feminine can be formed and is usually formed, seriously or in jest, by means of a suffix *-ίνη* (Doric *-ίνᾱ*). We shall see that the interpretation as such is justified, although not in the sense in which it has been thought.

Other derivatives would certainly have been more obvious. *-αινα*, originally at home in *ν*-stems such as *τέκτων* 'carpenter' : *τέκταινα*, rather freely forms the feminine of words in *-os* denoting human beings and animals; e.g. *τράγος* 'he-goat' : *τράγαινα* 'barren, hermaphrodite (goat)' (Aristotle), *μάγειρος* 'cook' : *μαγείραινα* (Pherecrates). This kind of formation met with the particular favor of the comedians and is not limited to Attic.[2] Less frequent in substantives or confined to certain dialects are the types *θεός* 'god' : *θεᾱ́* or *ὁ θεός* : *ἡ θεός*. Other suffixes are even more sporadic, or obscure.

Among the parallels which have been cited for Λογίνα, on the other hand, are many that are disparate and not always pertinent.[3] No doubt there are Greek words formed with *-ῖνος*, *-ῑ́νη*. Those which are not foreign loanwords seem to represent a class of IE adjectives pertaining to animals (and, by implication, denoting offspring or meat of animals).[4] Greek examples—secondarily often nouns—are *κορακῖνος* 'young raven (Aristoph.); a fish', *κεστρῖνος* 'mullet'; some nicknames such as *γελασῖνος* 'laugher, etc.' seem to have joined the group

[1] Schmid-Stählin, Gesch. d. griech. Literatur 1.1.642. To a referee whose remarks were brought to my knowledge by courtesy of Professor G. D. Hadzsits, I am among other suggestions indebted for an alternative which I anticipate here: Λογῖνα, while formed with an Italic suffix, is to be paralleled with Lat. *coquīna* 'kitchen' (besides *coquos* 'cook'; a much more common function of the suffix) rather than with *gallīna* : *gallus*, and means 'place where Λόγος is at work'; cf. Aristophanes' *φροντιστήριον* (Nub. 94), which would then be a mere adaptation to the Socratics of an old anti-Sophistic joke. However, drama titles containing two nouns connected by *καί* elsewhere seem to denote two characters: Πύρρα καὶ Προμαθεύς, etc.

[2] Chantraine, La formation des noms en grec ancien 107 ff.

[3] E.g. G. Kaibel, Comicorum Graecorum fragmenta 106. See fn. 9.

[4] Chantraine 203 ff.

secondarily.[5] According to their originally adjectival character such words may appear as feminines in *-ίνη*; Aristophanes uses *χοιρῖνη* 'a sort of shellfish', and there are a number of fish names of this kind. But it must be emphasized that none of these forms denotes the female animal in contrast to the male.

Nor are the few words in *-ίνη* outside of the huge list of animal names of more pertinence. Some of them (*δωτίνη* 'gift', *ὑσμίνη* 'battle') do not refer to female beings at all; others do but are not transparent in formation or at least cannot be interpreted as complements to corresponding masculines. Only a very few, it seems, are left. For *ἐργαστῖναι* 'the women who weave the peplos'[6] there is a late masculine form *ἐργαστής* 'workman'; but this is an *ā*-stem, and not exactly corresponding in meaning. There is *ἰατρίνη* 'midwife', a word of Roman times. The only well-established old pair seems to be *ἥρως* 'hero' : *ἡρωΐνη* (old Attic *ἡρώινη*), both probably foreign words; in this case, too, the masculine form is not an *o*-stem.

Thus our couple *Λόγος καὶ Λογίνα* does not fit too well the rules of Greek word-formation of the early 5th century B.C., at least as far as we know them. Nor is there the slightest support in the facts of Siciliote Doric for assuming (as has been done[7]) that the suffix of *Λογίνα* is something peculiar to this dialect. The fact is, on the contrary, that this dialect has several of the cited animal names in *-ῖνος*, *-ίνη*, plus something which is indeed characteristic of Siciliote and Italiote because it is not Greek, viz. adjectives in *-ῖνος* derived from names of cities such as *Ἀκραγαντῖνος*, *Ταραντῖνος*; *Λεοντῖνοι* (where the ethnic stands for the city itself), etc. They are evident borrowings from Italic, as shown by Lat. *Agrigentīnus*, *Tarentīnus*, which are regular Latin formations like *Flōrentīnus* (cf. Umbr. IKUVINS 'Iguvinus').

These town adjectives were taken over by the Greeks together with the foreign place-names themselves, and they do not account for *Λογίνα* any better than our previous so-called parallels. But it might be asked whether it would not be worth while to seek the origin of *Λογίνα* in Italic instead of in Greek. The adjectival suffix *-īno-* which, as we have seen, goes back to IE, had a much wider use in Latin and the other Italic dialects than it had in Greek; aside from the ancient animal derivatives (*suīnus* 'of swine' and the like) and the ethnics just mentioned, it was common in the derivation of adjectives from all kinds of nouns. Among all these formations there is a small but apparently old and well-established group of what are actually feminine derivatives. Its starting point may have been *rēgīna* 'queen', which can be interpreted as a modification of an inherited IE form. Besides *rēx* : *rēgīna*, there is *gallus* : *gallīna* 'hen'; further, perhaps, *concubīna* 'concubine', which must be compared with such words as *incubus* 'nightmare' and *prōcubus* 'lying on the face'; and finally *lībertīna* 'freedwoman', if this word is really older than *lībertīnus* and a feminine to *lībertus*.[8]

[5] Cf. also short names such as *Φιλῖνος Κρατῖνος*. The Homeric *Ἀδραστίνη Εὐηνίνη*, too, seem to belong to this category. Cf., however, Schwyzer, Griech. Gramm. 1.465.

[6] MacKendrick, PAPA 70.39.

[7] See fn. 9.

[8] Stolz-Leumann, Lat. Gramm.[5] 224–5.

It is therefore suggested that we see in Λόγος καὶ Λογῖνα a facetious imitation of such a pair as *gallus* : *gallīna*.[9] This pair is particularly appropriate as a pattern for derivation of feminines; it may be remembered that Eng. *cock* and *hen* not only refer to a certain species but largely function as grammatical elements indicating something like gender. That Epicharmus has given his Λογῖνα not a purely Greek name but a hybrid one which may have recalled the word by which the barbarians around Syracuse called their hens is not surprising; it no doubt added to the fun. This, too, has many modern parallels.

The Italic idiom with which the Syracusan Greeks came into contact early in the 5th century B.C. was of course not Latin but one of the minor dialects, perhaps Sicel. In the matter of word-formation these dialects are similar to Latin, and we need not hesitate to assume that the *gallīna* group existed there. It is interesting, though, to note that now there seems to be early evidence for its presence. Incidentally, the formation of Λογῖνα is not the only trace of Italic in Siciliote Greek. We know such actual loanwords as λίτρα 'pound' (= Lat. *lībra*), the phonetic form of which indicates that it had been taken over at an early stage.[10]

Yet it must be repeated that Λογῖνα is not Greek, not even what has been called the adulterated Greek of Sicily, which does not exist. It is not even a real borrowing of technical character like λίτρα, but just a joke. It would not be too much to expect such a thing of a comedy.

NOTES ON IRISH WORDS

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1. *conchend*

In a poem in praise of Labraid Swift Hand on Sword in Serglige Con Culaind there occurs the phrase (LU 3629) *crothid conchend catha ceirp* 'he makes the Doghead of sharp-edged battle to tremble'. And in a similar passage from an 11th century poem in praise of Cú Roí (ZCP 3.38.7): *ro-chroid descert domain | cath conchend ro-blogaig | Cú Ruí dar Muir Robuir | ar dágin a homuin | inn Afraic ro-mbiad* 'he shook the south of the world, he shattered the army of the Dogheads, Cú Roí beyond the Red Sea. For fear of him Africa nourished him.' In the Modern Irish Battle of Ventry one of the armies of the King of the World is that of *Fir Conchend* 'the Dogheads' (CF 9.279). These and other examples are given by Meyer in his Contributions, with the definition 'a wolf-

[9] G. Kaibel, loc.cit., in accounting for Λογῖνα mentions *gallīna* among several Greek and a few Latin words in *-īvos, -īvη, -īna*, but fails to state the decisive fact that *gallīna*, unlike other examples, has a corresponding *o*-masculine, *gallus*. The fact that he also lists Lat. *lātrīna* (!) 'bath', along with Greek animal names and nicknames in *-îvos, -îvη*, shows that he believes in an 'Italiotica ... formatio' (loc. cit.) *-îvo/ā-* with sweeping functions, evidently conceived of as a blend of Greek and Italic. (See also U. Sicca, Grammatica delle iscrizioni doriche della Sicilia 151–2). But his animal names (and nicknames) are Greek, and the feminines like *gallīna* as well as the locality names like *lātrīna* (or also *coquīna*) and the ethnics in *-īnus* (borrowed *-îvos*) are Italic. It has been our point to keep the elements distinct. See the final paragraph.

[10] J. Whatmough, PID 2.459–60.

head, doghead'. The earliest occurrence I have found is in an 8th century historical tract from Cín Dromma Snechta, in a passage referring to the occupation of Ireland by Partholón: *Trebsat a shíl .l. blíadan ar .u. c. conda selgatar Conchind, conná terno nech dia chlaind i mbethu. Tricha blíadan íar sin cen duine i mbethaid i nÉrinn* 'His seed dwelt for 550 years until the Dogheads slew them, so that none of his descendants escaped alive. For thirty years after that there was no-one living in Ireland', Thurneysen, Zu Ir. Hss. u. Lit. 24 (cf. MacNeill, PRIA 28 C 125). Here the Dogheads appear as raiders into Ireland.

Morris-Jones, Cymmrodor 28.110, note 2, suggested for the last example that *conchend* was a translation of Lat. *cynocephalus*, and the reference to Cú Roí's expedition beyond the Red Sea makes it plain that the Κυνοκέφαλοι are intended. I have no doubt that the same is true for LU 3629. Isidore is probably one source of the Irish tradition: *Sicut autem in singulis gentibus quaedam monstra sunt hominum, ita in universo genere humano quaedam monstra sunt gentium, ut Gigantes, Cynocephali, Cyclopes, et cetera. . . . Cynocephali appellantur eo quod canina capita habeant, quosque ipse latratus magis bestias quam homines confitetur. Hi in India nascuntur* (Isid. Orig. 11.3.15, De Portentis). *Cynocephali et ipsi similes simiis, sed facie ad modum canis; unde et nuncupati* (ib. 12.2.32, De Bestiis).[1]

There is nothing here to suggest that the Cynocephali were fierce fighters, as is implied in the Irish texts. We are told by the Ionian geographer Ktesias, who seems to be the source from which most of the later accounts derive, that they are a just and peaceful people, and the longest lived of men, and that they live by the chase, and by raising cattle, goats, and sheep. They are keen hunters with bow and javelin (17.4). But they do have teeth larger than a dog's, and longer thicker legs, and long shaggy tails (17.2.4); and this description could have given rise to the Irish notion. In describing other races of India, Ktesias says of the Pygmies that they are keen archers and follow the king of the Indians into battle (8.3), and of the Ἐνοτίκτοντες that they are fierce fighters, and that five thousand archers and javelin-throwers of them follow the king of the Indians (17.2). It may be that some confusion of these accounts with that of the Κυνοκέφαλοι is the source of the Irish notion, but I have not identified it.[2] In a Middle Irish life of St. Christopher, who appears as king of the Dogheads (an Irish interpretation of *gente Cananaeus*[3]), they are described as 'a race that had the heads of dogs, and ate human flesh' (RC 34.308); and in a preface still unpublished (LB 278a) we are told that the saint, as king of the Dogheads, first took service with the king of India.

The Welsh equivalent to *conchend* is *cynbenn*,[4] and two examples are given by

[1] Isidore may derive from Pliny, Nat. Hist. 7.2.23. The words *ipse latratus . . . confitetur* are quoted from Augustine, De Civ. 16.8. Herodotus 4.191 and Strabo 16.4.16 place the Κυνοκέφαλοι in Africa.

[2] For Greek and Latin sources, and especially for references to Ktesias, see W. Reese, Die griechischen Nachrichten über Indien bis zum Feldzuge Alexanders des Grossen. I am indebted to Professor S. L. Wallace for advice, and in particular for calling my attention to the article *Kynokephaloi* in Pauly-Wissowa.

[3] Legenda Aurea C, ed. Graesse, 430.

[4] Professor Kenneth Jackson has kindly called my attention to the Welsh form, and supplied the references.

Loth, ACL 1.410, who takes it to be a proper name < **Cuno-pennios*. The same examples are the only ones supplied by Lloyd Jones, Geirfa s.v. *cynbenn*, which he defines as 'a man (or a weapon) with a dog's head'. The first, from the Black Book of Carmarthen (95.7), refers to King Arthur: *ym minit Eidin | amuc a chinbin* 'on the hill of Edinburgh he fought with the Dogheads'; the second is from an obscure poem in the Book of Taliesin (26.21): *bum ser gan gynbyn* 'I was a battle-scythe with the Dogheads' (?). Lloyd Jones does not suggest that the word is a personal name, and would perhaps translate the second example 'I was a dog-headed sword (i.e. with a dog's head on the hilt?)'. Morris-Jones (loc.cit.) discusses these passages, and explains the first as referring to the Dogheads. The second he prefers to emend to *ser gynhyn* 'a cutting bill-hook', but it is perhaps better to recognize here too a reference to the fabulous dog-headed warriors.

Unfortunately the word *ser* is also obscure. It is ordinarily rendered 'bill-hook' because it is once used to gloss Lat. *falce* in that sense (see Stokes, Beiträge zur Vgl. Sprachforschung 4.409.5); but it appears to be glossed *kleddyf* 'sword' in two other instances (see Lewis, Glossary to Mediaeval Welsh Law s.v. *ser*). Zeuss (1093 = Z^2 1061) says that Mod. Welsh *ser* means *instrumentum secandi in frusta*, but I can find no confirmation of this. The dictionaries indicate that the word is obsolete. Irish *serr* is used of scythes attached to an engine of battle (TBC 5602), and the adjective *serda* commonly has this meaning. Lat. *falx* occurs in the same sense, and the Welsh and Irish forms may well be equivalent. They are cognate with Lat. *serra* (see Walde-Pokorny s.v. *ser-, serp-*).

Finally it may be observed that *Conchend* occurs in Irish as a personal name, both masc. and fem. (see Meyer, Contrib.; Thurneysen, Heldensage, index); but this must be an independent formation of the same type as *Conaire, Conall, Conchobor, Congal*. The Welsh name *Concenn* (see ACL I 513) is probably an Irish borrowing.

2. *airrechtach, tairrechtach*

Bríatharthecosc Con Culaind begins (LU 3466) with the precept: *nírbat taerrechtach debtha déne dóergairce* 'be not a seeker of fierce and uncouth quarreling'. The text has most recently been discussed by Roland M. Smith (ZCP 15.187), who renders *taerrechtach* 'provocative'. So far as I can find, the word is not of common occurrence.

Airrechtach cecha debtha dúre is said of a pig (Ériu 7.6.34), where I would translate 'seeking every fierce quarrel', 'eager for every quarrel'. Clearly *airrechtach* and *tairrechtach* are equivalent. The former is well attested, and has been translated 'stubborn', 'persevering', etc., so Meyer, Contrib.; Thurneysen, ZCP 11.103.2; Hessen's Lexicon. But this meaning has not been sufficiently established. Meyer left the word untranslated in Alex. 195 and Ériu 7.6.34 (quoted above).

Airrechtach is obviously an adjective derived from *airrecht*, which I take to be vn. of *ar-reith* 'assails, attacks'. Meyer, Contrib., has *airrecht* 'staying', 'waiting', with two examples: (a) *Rígh Caisil, is crád dia chéill | airreacht re fes Lacha Léin | ó'n Lúan co roili a caithimh | is tosach dia thiughlaithibh* 'to wait for the feast of Loch Léin', O'Donovan (BR 16.12 = Lecan 194c18 ||BB 267b46).

O'Donovan's rendering is apparently the original authority, and it is doubtful. In fact his reading is a wrong emendation. The ms. (Lecan) has *airreach*, vn. of *ar-fuirig* 'delays' (*air-fo-reg-*), and, if O'Donovan's translation is correct, this form should stand. BB has airrecht with a punctum delens over the *r* and the compendium s̄ at the end, which should probably be read *airecht* 'law-court'. If this meaning be accepted, I suggest as a translation of this passage, 'It is a torment to the mind of the king of Cashel to hold a court before the festival of Loch Léin: to take part in it from one Monday to the next is the beginning of the end of his days.' It would be necessary to compare other texts to decide which is the right reading; but in any event the example is here invalid. (b) *airrecht debtha*, Rawl. B.512.40b (the opposite of *imgabáil debthae* 'to evade a quarrel'). Here the meaning 'to seek a quarrel' is better than 'to wait for a quarrel', and will suit the vn. of *ar-reith*.

A third example is *nuchun airrecht in druí mór nimthathand a túarascbail do thabhairt ó sin immach* 'the great druid was not able to describe them further', Hennessy (MU 40.12 = LL 268a10); but here *airrecht* must be a finite verb and is obscure to me. Hennessy's translation is a guess, and does not help.

But a vn. *airrecht* 'to approach, seek out' corresponding to *ar-reith* is quite in order, and fits the second of Meyer's examples.

The adjective *airrechtach* occurs in other instances without *debtha*, and in each case, so far as I can see, 'aggressive, seeking a quarrel' gives as good meaning as 'stubborn', in accordance with the etymology: *arrachtach cech athissech* 'every reviler is quarrelsome', Tec. Corm. 15.32; *ócbaid erluma airrechtacha fri slaid* 'youths swift and aggressive in smiting', LB 208b44; *bása gáeth, nípsa forlabar, bása thrén, bása lúath, nípsa airrechtach* (*tairrechtach* v. 1.), *nípsa fomsech* 'I was wise but not talkative; I was strong and swift, but not aggressive or . . . ', LL 343d50 (Tec. Corm. 17 fn.). Here *tairrechtach* occurs as a variant. *Tairrecht*, vn. of **to-air-reth-*, ordinarily means 'to overtake, hit upon', not widely different from *airrecht* (**air-reth-*) 'to attack', and we have seen that *airrechtach debtha* and *tairrechtach debtha* both occur. I suggest that both mean 'quarrelsome, aggressive', and that the gen. sg. *debtha* 'quarrel' may be omitted without affecting the meaning.

Meyer's *airrecht* 'staying, waiting' is a ghost-word. Two articles should be substituted for his one: *airrech* 'staying, waiting', vn. of *ar-fuirig*; and *airrecht* 'seeking out, making for, attacking', vn. of *ar-reith*.

3. *airne*

In the same text the fourth precept reads (LU 3416) *nípat tairne ó main mandartha mesctha* = H 4.22.95.1 *Níba tairne omhain mannartha mesgtha*.

Smith, reading *tairne* with the mss., emends to **tairnide*, ppl. of *tairnid* 'lowers', and translates: 'Be not brought low (?) through fear of the ruin of intoxication.' He reads *omain* with Windisch and O'Longan's facsimile of LU, whereas Best and Bergin give *ó main* as the reading of the manuscript. They were perhaps influenced, in dividing the obscure words, by the possible alliteration *main mandartha mesctha*, since alliteration is an important feature. Smith's rendering is tentative and involves a doubtful emendation. This past participle

is not attested, but *tairnithe, tairnide* would be possible (see Lewis-Pedersen §594). He does not account for *omain*, which can be a gen. sg. noun (hardly 'through fear') or a nom. sg. adjective 'timid, afraid'.

The reading of H provides a better solution. Throughout the text *nípa* (*níba*) and *nípat* (*níbat*) occur indifferently as 2d sg., and here LU has *nípat*, H *níba*. Now if we read *níbat airne* in H the sense becomes clear, and the source of the error in LU apparent. *Airne* is explained by Meyer, Wortkunde 127, as a singulative from *aire* 'head, attention'. It is attested only in the story Airne Fíngein, where it means 'night-watch, vigil' in each instance. Here, however, *níbat airne omain* must mean 'be not a timid watchman', with the alliteration of initial vowels. Translate: 'Be not a timid observer of drunken rioting.' For this use of *airne* cf. *is tre fír flathemon fogaib cach dán mochta inna ṡuidiu ... fiss fri forcitol féthamail* 'it is through the prince's truth that every honored poet in his seat gains skill to utter polished poetry' (ZCP 11.82.§24 = Hermathena 19.91), where *dán* 'poetry' is used in the sense of 'poet'.

FRENCH *pataquès; cuir*

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[*Pataquès* is derived from an onomatopeic root; *faire des cuirs* originally means 'to lengthen a word by the addition of a consonant'.]

It seems incredible that our etymological dictionaries, from Littré and the Dictionnaire Général to Gamillscheg, Bloch, von Wartburg, and Dauzat, still repeat the story about the origin of *pataquès* 'fausse liaison' which was related in 1805 by the grammarian Domergue in his Manuel des Amateurs de la langue française—a story in harmony with the ideas current in his time about the anecdotal origin of words (note the *dit-on*!):

> Voici quelle en est, dit-on, l'origine: un plaisant était à côté de deux dames; tout à coup il trouve sous sa main un éventail.—Madame, dit-il à la première, cet éventail est-il à vous? —Il n'est point-z-à moi.—Est-il à vous, Madame? dit-il en le présentant à l'autre.—Il n'est pas-t-à moi, Monsieur.—Puisqu'il n'est point-z-à vous et qu'il n'est pas-t-à vous, ma foi, je ne sais *pas-t-à qu'est-ce*. L'aventure fit du bruit et donna naissance à ce mot populaire, encore en usage aujourd'hui.

The form *pataquiès* is mentioned in the Courrier de Vaugelas 9.146 (1879) as supposedly derived from such a sentence as **je ne sais pas-t-à qui est-ce*. But any one with a command of French must question the syntax of **je ne sais pas à qui est-ce* (instead of ... *à qui c'est*). It seems clear to me that this expression, meaning 'a mistake in liaison', is derived from a word itself meaning 'mistake, blunder'—its general reference later becoming limited to a mistake in speech. We have, for example, in modern Provençal, the onomatopeic stem *pata(c)* 'coup, bruit d'un coup, d'un soufflet, éclat'; *pataca* 'frapper, donner des coups' (*temps pataca* 'ciel pommelé, tacheté') and such variants as *pataflan, pataflesc(o), patapan, patapou* 'patatras'; *parabis-parabast* 'sens dessus dessous, bredi-breda'; *patri(c)-patra(c)*. In Bergamo we find *patatic patatac*; in Milan and Venice *patatin-pataton* (Fr. Kocher, Reduplikationsbildungen 84); in popular French *patati patata, patia-patia* 'nonsensical talk' (especially ... *et patati patata* at the

end of a passage in which one has been repeating the none too brilliant chatter of another: cf. the American *blah-blah-blah*); in Anjou *patatrac* 'lourdaud, patapouf' (Verrier-Onillon), *patatra* 'bump' (in the Dictionnaire de Trévoux is related the anecdote that when the horse of the duke of Nevers stumbled and fell, someone exclaimed *'patatra!'*); the Atlas Linguistique contains, in its Table, a *patafla* 'exclamation' and a *pataflask* 'interjection'; in Catalan we find *pataflastl*, *patacada* 'blow' etc.; in Rabelais, Gargantua, ch. 19, the group *nac petetin petetec* is used: 'onomatopée qui reproduit les coups répétés du marteau sur l'enclume' (Sainéan, Langue de Rabelais 2.205).

Thus such a form as *pataqu-ès(t)* could easily be derived either from *patac* (cf. *pataflesc*, *pataflast* above) or from the French *patati* (*-ti-* > *-t'i-* > *-qui-*[1]); in either case the development of meaning would be 'heavy blows' : 'awkward person' : 'awkward mistake'. The Dictionnaire du bas-langage of d'Hautel (1808) gives the general meaning which I postulate, along with the specialized one: 'Quiproquos, calembours, mot mal prononcé, mal interprété; faute de langage; sottise; imbécillité. *Un faiseur de pataquiès*: celui qui pèche continuellement contre la grammaire; qui fait des cuirs en parlant'. The relationship of our word with the onomatopeic stem *patac* (or *patati*) becomes a certainty as we read in Boiste's dictionary (1818) such examples of the reduplicated form *pataqui-pataquiès* as:

> Les enrichis sans éducation se trahissent par leurs *pataqui-pataquiès*.
> Le *pataqui-pataquiès* se fait entendre, même à la cour, par des hommes qui rient des gens de lettres.

All in all I should prefer to accept *patati* as the root of our idiomatic expression, in view of the specialized use of such forms as *patati-patata* and *patia-patia*, which refer (cf. above) precisely to a certain way of talking.

As regards the word *cuir*, which seems to refer to approximately the same error in liaison (though the lexicographers insist on drawing a sharp distinction between the two words), d'Hautel gives the following definition: 'Faute contre la grammaire et contre Vaugelas. On dit d'un comédien qui fait des fautes de liaison en parlant ... qu'il fait des cuirs'. Below is the explanation of Littré:

> On prétend que ce mot vient du substantif *cuir* employé pour désigner la peau des animaux, et qu'on s'en est servi en ce sens à raison de l'analogie que présentent les expressions *écorcher un mot* et *faire un cuir* avec l'action d'enlever la peau des animaux pour en faire du cuir; peut-être aussi est-ce à cuir de rasoir qu'il faut le rapporter, ces lettres ainsi prononcées étant de prétendus adoucissements de la prononciation comme le cuir adoucit le rasoir.

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[1] Cf. *écarquiller* < *écartiller*, and the popular variants of *amitié*, *moitié*, *mortier* which are attested with *-quie-* by Gougenheim, La langue populaire dans le premier quart du XIXe siècle 69 (1929); the reverse development *-ki-* > *-ti-* is equally widespread: *tabaquière* > *tabatière*, *cinquième* > *cintième*.

As regards the pronunciation of the final *-s* of our word, this is in line with the rule formulated by the same grammarian Domergue (cf. Rosset, Les origines de la prononciation française au XVIIe siècle 232 [1911]) on the basis of popular speech: that in interjections and onomatopeic words the final consonants must be pronounced (*hélas*; *chut*, *zut*).

The connection of this word with *cuir à rasoir* 'razor-strop' must have been suggested to Littré from the context of the passage which he quotes (again we may observe the bent for anecdotal etymologies) from Désaugiers, Le Dîner de Madelon (1813):

> A faire mon d'voir toujours prête,
> Not' maître, je v'nons vous offrir
> C'te paire de rasoirs pour vot' fête;
> Acceptez-la z'avec un cuir.[2]

But this passage could not have been the origin of *cuir* 'mauvaise liaison': Eman Martin, who first believed that these lines from a popular play may have given rise to this use, was forced later to revise his opinion, stating in the same journal (9.145 [1879]) that *cuir* is attested in this meaning as early as 1808 in d'Hautel's dictionary. Moreover Littré's explanation is not tenable, since *un cuir de rasoir* (as he himself says, under *cuir*[1]) sharpens the blade ('pour donner le fil au rasoir') instead of softening it ('adoucir'). And the parallel he suggests with *écorcher* is rather far-fetched. It seems to me that the expression *faire des cuirs* means 'to lengthen a word' ('allonger, étirer') by the addition of an extra consonant; lengthening is necessarily involved in the process of preparing leather. (Cf. a similar extension of meaning in modern Provençal: *faire de cuir* 'courroyer, préparer les cuirs; *allonger les bras en bâillant*'.) Moreover the idea of 'adoucir' is also contained in the literal meaning of the phrase, for the act of tanning is defined as 'to soften hides by beating'.

THE NEUTER GENDER OF OLD NORSE *fljōð* AND *sprund*

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Words for 'woman' in Old Norse are regularly of feminine gender (cf. *brūðr, dīs, kona, kvæn, snōt, vǫrð*, etc.). The neuter gender of *vīf* 'woman' and of *man* 'maiden' may be explained with Krause[1] as due to an originally collective plural usage. But the neuter gender of *fljōð* and of *sprund* cannot be explained on this ground, for there is no evidence that they were ever used collectively.

1. *Fljōð*. If this substantive represents an original feminine gender (cf. Goth. *magaþs* fem. 'maiden' with *þ*-extension), the shift of gender from feminine to neuter[2] may be explained as due to the influence of the neuter substantive *jōð* 'offspring, child' to which it is formally similar. Besides, these two words (confined to poetry) were undoubtedly associated with each other as designating members of the family group. (Cf. the NHG pl. form *Männer* 'men' instead of the phonetically correct **Mann* < OHG *man*, due to association with *Weiber* 'women', *Kinder* 'children'.)

[2] Courrier de Vaugelas 1.18 (1868).

[1] Wolfgang Krause, Die Frau in der Sprache der altisländischen Familiengeschichten, Ergänzungsheft zur ZfVglSprachf., No. 4, 29–30, footnote 1 (1926).

[2] Cf. OS *frī* 'woman', originally a fem. *iō*-stem, = OE *frēo* 'woman' : ON *Frigg* 'name of a goddess' < PGmc. **friiį̄-ō*, but with shift to neuter gender probably after the pattern of the neuter *ia*-stems with final radical vowel *ī* (cf. *blī* 'lead').

2. *Sprund.* Falk-Torp[3] and Fick[4] connect *sprund* with a PGmc. base **sprend-* 'to spread, sprawl'. They interpret ON *sprund* as signifying 'eine prachtliebende Frau'. Aside from the fact that *sprund* is simply a poetic word for 'woman' and not necessarily[5] 'a woman who loves display' the neuter gender of *sprund* speaks against this derivation, unless we can explain the neuter gender as due to analogy, but so far as I can see this cannot be done.

The only plausible explanation of the neuter gender of *sprund* is to assume with Fritzner[6] that *sprund* originally signified 'pudendum muliebre'. If we connect *sprund* with PGmc. **sprend-* 'to spread, crack', we may assume its basic sense to be 'crack, fissure', > 'cunnus' (cf. MHG *sprind-el* : *sprund-el* 'Splitter', OE *ā-sprind-lian* 'spalten'). The neuter gender of *sprund* denoting an organ of the body needs no explanation.

The transition of meaning from 'cunnus' to 'woman' offers no difficulties. In the IE languages the words for 'female, woman' were often derived from bases denoting some phase of her sex function: cf. Lat. *fēmina*[7] 'woman' (from a base **dhēi-* 'to suck') = 'die Säugende'.

The fact that *sprund* became a laudatory designation for 'woman' excludes the possibility that the neuter gender represents the so-called neutrum contemptionis used for designating 'female monsters', such as *flagð*, *gīfr*, *skars*, etc.

THE DEFINITION OF *mahogany*

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Professor Malone's criticism[1] of the definition of *mahogany* in Webster's Dictionary (1934) contends that the usual current sense of mahogany is 'generic', a wood characterized (313) by 1. hardness; 2. heaviness; 3. tropical origin; 4. 'usually interlocked or crossed grain'; 5. 'color between reddish brown and brownish yellow'.[2]

A difficulty is at once obvious: if *mahogany* is a 'generic' term, all these characteristics admit also rosewood; while numbers 1, 2, and 4 exclude 'Philippine

[3] Falk and Torp, Norwegisches-dänisches etymologisches Wörterbuch 2.1132, *Sprette* (1910–11).

[4] August Fick, Indogermanisches Wörterbuch, 3: Wortschatz der germanischen Spracheinheit 516–7, *sprent* (1909).

[5] Aside from one occurrence in Rigsþula 25, 3 (where *Sprund* is used as a proper name for 'woman') the word *sprund* is confined to skaldic poetry, and here we find no evidence that the word denoted 'eine prachtliebende Frau' (cf. Lexicon poeticum, Copenhagen, 1913).

[6] Ordbog over det norske sprog[2] (Kristiania, 1886–96): '*Sprund* n. Kvinde (saaledes kaldet efter den kvindelige Kjønsdel, da Ordet eg. betyder en Revne, Sprække ...)'.

[7] Cf. Walde-Porkorny 1.830; F. Specht, ZfVglSprachf. 55.18 (1927).

[1] LANG. 16.308–18. The accompanying criticism of Webster reflects certain wrong impressions of this work. Thus, the editors of Webster scrupulously avoid posing as 'pundits', merely condensing and transcribing the record of actual usage contained in vast collections of citations accumulated for well over a century past; and they are under specific injunction against the use of secondary sources, including other dictionaries.

[2] I have omitted non-descriptive statements, for brevity. Twenty-odd qualifying phrases are appended, e.g. *Philippine mahogany.*

mahogany', which is soft, lighter, and rather brashy. In short, we have here no definition at all, to say nothing of a 'generic' use that is to be defined.

Furthermore, after urging that *mahogany* 'was a generic term in origin', Professor Malone is obliged to confess: 'Unluckily this presumption cannot be either proved or disproved' (317); and, in fact, refers his earliest citations to the *Swietenia* of Webster's definition. Unlucky also is Professor Malone's adduction of *madeira* (= *mahogany* in the Bahamas) in support of his assumed generic use, with his surmise that the word is 'nothing more than the Spanish *madera* "wood", somewhat unorthodox in spelling and pronunciation' (318). Murray's earliest citations[3] (1596, 1612) show *madera* (Spanish) in the meaning 'WINE of Madeira'; why the Spanish form of the Portuguese name should have been preferred at that time hardly needs discussion here. The Portuguese form *madeira* is a correction, and not an 'unorthodox' spelling; it is first cited in 1787 and is thereafter regular. The original Spanish and Portuguese sense 'wood' is not cited; the word consistently denoted the island or its product, chiefly its wine (whose color might be the reason for calling a REDDISH wood *madeira* wood).

The whole story is really very simple: The wood (color, etc., as described) of the *Swietenia*, a tree of which one variety grows in the West Indies (*S. mahagoni*) and a related variety in Central America (*S. macrophylla*), has been much admired ever since earliest colonial times, and therefore extensively imitated in cheaper woods.

Any extension of the name *mahogany* to substitutes or imitations should, in honest practise, include some descriptive word or phrase as a caveat emptor. But I suppose we can agree that the dictionary, whose function is to provide compact and accurate information, may with justification overlook confusions common in ignorant usage, as well as the morals of merchandising, until such time as a particular word (e.g. *paper*) shall have lost its original implication or reference. At most, the dictionary might note, after defining *mahogany*: 'by extension, inaccurately, a similar wood finished to imitate it'.

[3] NED s.v. *madeira*[1]; the cits., confusingly arranged, begin with Shakespeare I Henry IV.

REVIEWS

THE PRONUNCIATION OF GREEK AND LATIN. By EDGAR H. STURTEVANT. Second edition. (William Dwight Whitney Linguistic Series.) Pp. 192. Philadelphia: Linguistic Society of America, 1940.

Professor Sturtevant is to be congratulated for having made a true revision, one that has involved a conscientious reworking of all the material, both old and new, to the extent that in many ways the present edition merits the consideration of a new work. The book has seven chapters: The Nature and Value of the Evidence; The Greek Vowels; The Greek Consonants; The Greek Accent; The Latin Vowels; The Latin Consonants; The Latin Accent. There are numerous changes from the first edition (Chicago, 1920) in almost every section, and many parts have been rewritten, notably the portions which treat the mutes, both Greek and Latin, and the chapters on Greek and Latin accent. The order of the chapters and of their subdivisions has been altered considerably, and the result is a more lucid and logical arrangement. The material is grouped according to the letters of the alphabets (as it was in the first edition) rather than according to the phonemic systems of the languages. The author rightly declares in the preface: 'They [the reviewers of the first edition] have not realized that the problem before us is precisely the interpretation of alphabetic symbols.' While retaining most of the commendable features of the first edition (e.g. the footnotes translating all Greek and Latin passages quoted in the text as evidence), the author has made a number of improvements that further increase the book's utility. Of particular note is the more extensive employment of phonetic symbols, more scientifically designed and described, and the inclusion of a table of these in the opening pages. Also helpful is the creation of more divisions within each chapter, numbered to facilitate a greater use of cross-references. On the other hand it must be admitted that, so far as the lay reader and even the average classicist are concerned, the readability of this edition has been impaired in some places by a tendency toward unnecessary subdivision that obstructs the continuity, and by an overly severe condensation of evidence. These deficiencies, if they be that, are more than counterbalanced by a consistent scholarly precision and clarity of exposition lacking at times in the first edition.

Some of the more significant alterations and improvements deserve mention. The sections (§§18–33) devoted to H, E, and EI have been largely reworked and much expanded; although of minor importance, the reorientation of figures 2, 3, 4, and 5 is welcome. The chapter dealing with Greek consonants has been thoroughly rearranged; e.g. the discussion of voiced and voiceless consonants now properly introduces the chapter. The view (§70) that IE *sm* and *sn* became Primitive Greek voiceless *m* and *n*, i.e. '*μ* and '*ν*, is an addition. So too is §75, which concerns the loss of *ϝ* in East Ionic, and that portion of §77 which demonstrates the development IE *sw-* > Prim. Gk. voiceless *w*, i.e. '*ϝ*. The treatment of the breathings has been well revised in the light of Laum's important work (Das Alexandrinische Akzentuationssystem) and the findings of

Sapir (LANG. 14.271 f.) and of Sturtevant himself (TAPA 68.112–9). The new theory (§§67c, 77, 79, 85) that voiceless *w*, *r*, *l*, *n*, *m* (*'ϝ*, *'ρ*, *'λ*, *'ν*, *'μ*) and the rough breathing (') in some of their occurrences show the unvoicing effect of an immediately preceding voiceless laryngeal (already lost in Pre-IE) is sound. The sections (90–2d) dealing with *φ*, *θ*, and *χ* have been reorganized and clarified; Sturtevant is most convincing in his argument for the long-lasting and general prevalence of their aspirate nature, although some of the evidence for their change to spirants in some localities before the Christian era, which Sturtevant calls 'alleged' (§92), should perhaps not be dismissed so summarily. In §§93 and 94 the view that *κ*, *τ*, *π* were lenes and that *β*, *δ*, *γ* were fortes is rightly abandoned. The suggestion (§94) that *β*, *δ*, *γ* were 'voiced aspirates more or less like those still to be heard in India' is attractive, but one wishes that more evidence could be found. In the chapter on the Greek accent Sturtevant changes his opinion on two important points. He no longer believes 'that the middle accent of the grammarians should be ascribed to the syllables marked grave in our texts, namely the final syllables of oxytones within a phrase' (§106d), but suggests that these may have had a somewhat lower accent than other acutes, possibly approximating those particular graves of polysyllables which were higher than others (so 'middle'). The other change (§109b) consists in reinterpreting the Romans' identification of their accent with that of the Greeks as due to the fact that they were impressed with the pitch common to both languages rather than because they noted a considerable element of stress in Greek.

The chapters devoted to the Latin sounds show the same careful revision and incorporation of new material. The description of *ę̄* (§120), a fifth front vowel phoneme possessed by Latin in the time of Plautus and Terence, is not found in the first edition. §123d is also an addition. Here Sturtevant rightly insists that the orthographical mistakes, *o* for *ŭ*, *u* for *ō*, etc., are significant in that they indicate a phonetic approach of these phonemes in various localities, although by no means a phonetic identity (until the 6th century of our era). The treatment (§§126–126d) of the 'intermediate' vowel that lies between *i* and *u* is thoroughly reworked and tempered, but the testimony of Velius Longus cited and translated in the first edition might well have been included. The sentence beginning 'The Romans borrowed their alphabet from the Italian Greeks' (1st ed. 36) has been properly deleted. In the chapter on Latin consonants there has been rearrangement in the order of the symbols considered as well as change in the material of the sections given over to these symbols. In the first edition the author spoke definitely for the alveolar nature of *l* under certain conditions. In the discussion here (§§165–9) he favors the alveolar *l* less and, while of course admitting a velar *l* in some places, thinks that Classical Latin had a dental *l* in most words. He changes his mind too (§174d) about final *m* before an initial consonant and concludes that this, as well as final *m* before an initial vowel, nasalized and lengthened a preceding vowel. The sections (§§189–200) concerning the mutes have been reworded, pruned in some places, expanded in others, and generally improved. The interpretation of the *C/G* problem of the alphabet (1st ed. 100–1) has been given up because it depends upon the theory (now rejected by the author, as we have previously noted)

that the Greek voiced mutes were fortes. The explanation of $\beta = p$, $\pi = b$, etc. as instances of fortis for fortis and lenis for lenis (1st ed. 98–9) has been omitted for the same reason. The treatment of *QU* and *GU* (§§193a–4), particularly the former, is a great improvement over that of the first edition.

Sturtevant has completely reworked the chapter on the Latin accent, incorporating the results of his important articles and reviews that have appeared since 1920. He believes that 'in the period of the classical and postclassical literature the Latin accent involved both stress and high pitch upon the same syllables', that there is also abundant evidence of a stress accent in the preclassical period as well as in the latest periods, and that, although the evidence speaks directly only for the centuries from 100 B.C. to 300 A.D., Latin pitch probably existed both earlier and later. His arguments are quite convincing.

A few items require suggestions and queries which may be listed in the order of occurrence. §16: In the second sentence Ancient Gk. *ᾱ*, like Modern Gk. *α*, is said to have the approximate value of *a* in *father*; in the last sentence Greek *ᾰ* is stated to have the value [a]. But in the table of phonetic symbols (19) the value of [a] is defined by the vowel of French *patte*, and the vowel of *father* is shown (by a blank in the Greek column) to be different from *α*.—If the velar nasal in *Gaṅgā* is to receive a diacritical mark, perhaps the cerebral nasal in *brahmānas* ought to have one too.—§67a: Read Lentz for Lenz.—§67c: The phrase 'in other words' might be taken in the sense of 'that is' by the unwary. 'In still other words' would be better.—§70: Orthographic evidence for *'μ* is given but none for *'ν*. Possibly such a form as *λύχνος* < **λυκ-σ-νος* might have been cited as evidence of a medial voiceless *n*.—§71b (64, fn. 16): Sturtevant says he cannot understand Schwyzer's remark (Griech. Gramm. 1.214) on *Ἀγγνούσιος*. If *γgm* in the third line from the bottom of page 214 of Schwyzer's book is not a misprint for *γm*, then it could be conjectured that Schwyzer means, *φθέγγεται* is a verb whose base is *φθεγg*; here the *γ*, a velar nasal, the result of the assimilative influence of the following velar, is represented by the first gamma; the *g*, a voiced velar, is represented by the second gamma. This same base, namely *φθεγg*, appears in the noun *φθέγμα*.[1] Here *γ* + *g* is represented by a single gamma. Now, by a kind of reverse process a double gamma sometimes is found to represent the single *γ* as in *Ἀγγνούσιος*.' It seems possible that Schwyzer means that *γ* is represented by *γ* in many words but sometimes by *γγ*, and that *γg* is represented by *γγ*, but also by *γ*. The explanation may be that some Greek ears did not clearly distinguish between *γg* and *γ* (or *γγ*) and that consequently there was confusion in transcription.

§90b (78, line 3): Should not the cross-reference be [82] rather than [77]?—§90o (81, fn. 70): The cross-reference [88] is puzzling. Is [70] meant?—§94 (86, fn. 90, line 7): 'followed' ('Plato ... who ... followed the same classification as Dionysius') is chronologically misleading; 'used' would be better.—§101: If the grave accent was low pitch, how can it be called 'lack of accent'? Should it not be considered a 'lack of acute accent'?—§106a (98, line 5): Read *οἰκείαν*

[1] At least Schwyzer appears to imply this when he writes: 'Wie in diesen [i.e. *φθέγμα*, *ἐλήλεγμαι* (perf. mid. of *ἐλέγχω*)] *γμ* für *γgm* steht (vgl. *φθέγγεται*, *ἐλήλεγκται*), konnte man ....' If *φθέγμα* contains *γgm*, possibly the development was *γgm* > *γγm* > *γm*.

for *οἰκεῖαν*.—§106c (99): Insert the number 4 after Ps.-Sergius.—§106d (100, fn. 15): The phrase 'It has since been shown' is misleading since Giessler's dissertation is dated 1923 and Laum's book 1928.—101, fn. 16: Substitute the page numbers 100–2 for 99.—§107a: The system, or rather apparent lack of system, of diacritical marks in early literary papyri is probably more complicated than Sturtevant implies. There are some interesting parallels to the Rig-Vedic system of accentuation.—§§108–9b: One feels that the rejection of the evidence for stress in Greek before the Christian era, particularly in the Hellenistic period, should have been more fully justified.—§123e (118): Substitute the cross-reference [44] for [45].

§126: The discussion of 'the alleged "intermediate" vowel' begins with a quotation from Quintilian 1.4.8: 'Medius est quidam *u* et *i* litterae sonus; non enim sic *optimum* dicimus ut *opimum*.' Quintilian was probably talking about a variation between short *i* and short *u*, as were the authors of later passages that deal with this topic (Sturtevant himself indicates this in §126a). If that is so, then either Quintilian's examples are ill-chosen or the reading is faulty, for the *i* in *opimum* is long. The latter explanation seems likely. Some earlier editors such as C. Halm and E. Bonnell, using B, have this reading,[2] but most modern editors of the passage read differently. L. Radermacher has *non enim sic 'optumum' dicimus vel 'optimum'*. F. H. Colson has *non enim sic 'optumum' dicimus aut 'optimum'* (he follows the second hand of A, which has *aut*; the first hand apparently has *ut*, although it may be *vel*); he interprets (see note on p. 40 of his edition): 'we do not say either "*optumum*" or "*optimum*" as the written words would indicate'. V. D'Agostino follows Radermacher. J. Cousin (Études sur Quintilien 32–3 [Paris, 1936]), accepting A^1 entirely, has *non enim sic 'optumum' dicimus ut 'optimum'*. It is important to note that the consensus of modern scholarship speaks for *optimum*, not *opimum*.—§131: Read *daiwēr* for *daivēr*.—§144e: (137, concerning *UI*): The explanation (1st ed. 67) of how Terentianus' 'two solutions of the problem are really one' has been omitted. It should be retained.

§189a (164): Sturtevant translates Terentianus 6.331.186–98K in fn. 70; he renders lines 191–2 *nam prima per oras etiam labella figit, velut intus agatur sonus* as 'for the former [i.e. *b*] brings the lips together along their edges as if the sound were produced between (?).' 'As if the sound were produced within' (*intus* contrasted with *foras* of line 193) might be better. Terentianus appears to refer to the voicing that occurs behind the compressed lips before the explosion. Experimenting with his pronunciation, he probably endeavored to produce the sound *b* by itself, or at least in slow motion initially or medially, and consequently exaggerated the voicing and the duration of it. On p. 165 Sturtevant says that 'Terentianus ascribes an imperfect lip-closure to *b*, which implies a lenis if not a spirant.' If *intus* = 'within' and not 'between', then the statement just quoted does not seem to hold. Furthermore, although Marius Victorinus' paraphrase of Terentianus (quoted 164–5) confuses the descriptions

[2] But F. Ritschl (RhM 22.607) saw that it did not make sense and suggested *non enim sic 'optimum' d. ut aut 'optumum'*. F. Meister reads *non enim [sic] 'optumum' dicimus aut 'optimum'*.

of *b* and *p*, there is nothing confused in the descriptions themselves, and the phrase *compresso ore* (which rightly belongs to *b*) indicates a tight closure, or at least does not suggest an 'imperfect closure'. Sturtevant translates it (164, fn. 71) 'when the mouth is tightly closed'.

These matters, however, are of minor importance and obviously cannot be considered to detract substantially from the general excellence and stimulating scholarship of a book invaluable for the student and the specialist alike by reason of its collection of significant data and of the sound interpretations thereof.

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AN OUTLINE OF THE HISTORY OF THE GREEK LANGUAGE, WITH PARTICULAR EMPHASIS ON THE KOINE AND THE SUBSEQUENT PERIODS. By PROCOPE S. COSTAS. (The Eurasian Library of America, Origines Eurasiaticae 2.6.) Pp. 144. Chicago: Ukrainian Academy of Sciences of America, 1936.

Even if there were other good works of reference in a western language covering the entire history of Greek, this book would be welcomed as an admirable treatment of the subject. In the absence of such works it will prove and has already proved to be an indispensable source of information for anyone who finds it difficult to make use of the lengthy volumes of Hatzidakis and Triantaphyllides on medieval and modern Greek. It is written with learning and skill, and sometimes with the emotion of one who has more than an academic interest in the language. It brings out well the chief lines of development by concentrating on certain crucial points (early and classical Greek, Koine, Atticism, formation of the modern vernacular—perhaps the most successful chapter—, modern dialects, and 'the language question'—where the author favors a not too rigid observance of the literary Katharevusa); the treatment of the main periods of development is divided into a historical exposition giving the necessary data on the stylistic character of the literary documents, and a grammatical sketch summarizing the changes through which the Greek language passed during that period. The bibliography is not only comprehensive but serviceable because a large part of it is given in the form of references as the various topics are taken up; a tremendous amount of critical work has been done here.

A book of this kind necessarily consists in summing up the results of historical as well as of literary and linguistic research as a help for further interpretation of the texts and further linguistic work, rather than in presenting detailed linguistic investigations. This has been the merit of the well-known treatises on the history of a language. The task is certainly not an easy one; yet in the case of Greek, it is particularly promising because we have at our disposal an unbroken literary tradition over a period of nearly three millennia. It is one of the chief virtues of the present book that it stresses the continuity of development in this complex and yet so strangely conservative language. It is, for example, probably not a paradoxical overstatement at all when Costas follows those who link the disastrous present-day antagonism between literary and popular Greek to the Atticistic reaction of the early centuries A.D.; its spirit

was present throughout the Middle Ages. Generally, the importance of the various speech levels is duly emphasized and their varying evaluation by different scholars justly presented. The same is also true of the treatment of the dialects, though it should be pointed out perhaps more clearly than the author does that while the medieval and modern dialects on the whole have no connection with those of pre-Hellenistic antiquity and must go back to the dialects of the Koine, the case of Tsakonian (the dialect of Kynuria in the Peloponnesus which is supposed to be a direct descendant of ancient Laconian) is by no means unparalleled (33–4; 124). As the author himself observes at other points in his discussion, isolated speech communities such as those in southern Italy and the Pontic colonies seem to have preserved ancient dialectal features to a considerable degree, at least in the opinion of many scholars. Particularly instructive with regard to the history of word-formation and to foreign influence is the survey of the modern Greek lexicon (109–23).

The few statements which might strike a reader as incorrect are, as far as the reviewer can judge, mostly defendable; this is, for instance, true of the chronology of certain sound changes. Strangely enough, the important change in the character of accentuation seems nowhere to be mentioned. Technical slips seldom affect intelligibility; yet notice Tyrana for the correct Tyana (35); *η* (*ηι*) has been omitted in the list of ancient vowels and diphthongs now pronounced *i* (98).[1] But, as we have said, there is no point in insisting on details; we are very fortunate to have the achievements of many scholars for the first time presented to us in such a reliable way.

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The Italian language. By Mario A. Pei. Pp. xvi + 272. New York: Columbia University Press, 1941.

This volume is the most recent handbook dealing with the history of the Italian language; its purpose is 'to present in condensed form and with the modifications suggested by recent research the findings of D'Ovidio, Meyer-Lübke, Grandgent, and other linguists and to adapt them to the ends of elementary and advanced instruction for classes in Italian linguistics' (vii). Whereas preceding treatises have, however, confined themselves to phonology and morphology, this work contains, in addition to the usual sections on Phonology (28–66) and Morphology (67–113), chapters treating of other aspects of the language as well: a general introductory section on Language and History (3–27), a far too brief Syntax (114–8), Vocabulary (120–35), Dialectology (136–61), Texts (162–212), General Bibliography (213–6), and Special Bibliographies and Practice Material (217–39). Of these, the collection of texts is of especial interest, as such material has not previously been available in an American edition.

There was considerable need for a new manual, to replace the older handbooks; Grandgent's From Latin to Italian was especially characterized by methodologi-

[1] *ηυ*, which is listed, may be a misprint for *ηι*. In *ηὗρα* 'I found', it seems to yield *iv* (*ivra*); see Schwyzer, Griech. Gramm. 1.203, with further references.

cal laxity,[1] and the material needed fresh, more exact treatment. Unfortunately, however, despite the greater extent of the subject-matter and the novelty of some of the material included, the work under review does not meet this need, and is in fact even more lacking in precise and thorough analysis than earlier books. A beginner studying this manual would indeed learn the facts of the development of the Italian language; but he would by no means receive the introduction to stringent, rigorous methodological procedure that is essential to linguistic work.

The fundamental fault of this book is the refusal manifest therein to recognize the principle of regularity in phonetic change, as it is understood at the present time by its most discerning advocates.[2] At various points in the book (3, 41, 43, 92) we find boutades against 'absolutely rigid phonological laws, having the same characteristics of inflexibility and predictability as have the laws that are operative in the domain of the physical sciences' (41). This is, of course, just the old straw man that is too frequently set up, for the sole purpose of being knocked down, by defenders of the 'free creative power of the individual and of the social group' (3).

As a result of this opposition to the principle of regular phonetic change, the beginner in the field would get from this manual no properly formulated picture of the phonetic development of Italian. Take for example the treatment of intervocalic consonants. The reader is simply told that 'Italian, by reason of cultured, conservative and urban influences which hold the stress accent within reasonable bounds, presents a considerable amount of resistance to the sonorization of intervocalic consonants' (47), and in this place and the sections on individual consonants (§§81–92, 95) examples of both 'sonorization' and 'resistance' are given without further analysis of their origin, as if both were equally characteristic of standard Italian. No hint is given of the cleavage between East and West Romance in what might well be called the 'West Romance sound-shift' of intervocalic occlusives (double unvoiced > single unvoiced; single unvoiced > single voiced; single voiced drops).[3] No suggestion is given of the prevalence of ERom. conditions in this respect in Tuscany[4] and of WRom.

[1] Typical of Grandgent's attitude is the statement 'The one constant feature of linguistic change would seem to be inconsistency' (From Latin to Italian 82). No progress in analysis can be made with such a guiding principle as this.

[2] It is almost superfluous to give references to such defenses of the principle of regular phonetic development as Bloomfield's (in his book Language, chapters 20, 22.1; LANG. 8.220–33), Sapir's (in his book Language, chapter 8), L. R. Palmer's (An Introduction to Modern Linguistics 134), etc.

[3] At several points, misleading references are made to 'the general Romance trend' (to sonorization or complete disappearance of intervocalic consonants) and the like (48, 55, 58, 60, 156), again completely disregarding the geographical cleavage between East and West Romance.

[4] This is the generally accepted doctrine among modern scholars; cf. C. Battisti, Le dentali esplosive intervocaliche nei dialetti italiani 199–204 (Halle, 1912; ZRPh. Bhft §28); Meyer-Lübke, Bartoli, Braun, Grammatica storica della lingua toscana 98 ff. (Torino, 1927); Rohlfs, La struttura linguistica dell' Italia (Leipzig, 1937); Rohlfs, HA 178.67–8 (1940). The effort of Merlo and his followers to claim original WRom. conditions for Tuscany (e.g. ID 9.18–9 [1933]) has rightly failed to meet with general acceptance.

conditions in Northern Italy, nor of the consequent conclusion that words showing the WRom. sound-shift (*strada, madre, riva, pagare*) are borrowings from NIt. or other WRom. dialects. This type of treatment is characteristic of the discussion of phonological matters throughout.[5]

Further results of this refusal to recognize regularity in phonetic development are the almost total absence of precision in determining the geographical origin of diverse elements in the standard language (as suggested above), and the continual description of developments in vague terms of 'tendencies', which are represented as having two or more 'equally possible outcomes' (e.g. *-ks-* > *-š-* or *-ss-*, 55; *-rį-* > *-r-* or *-į-*, 63), and of 'resistances', which operate sporadically and senselessly in some words but not in others. But 'legem phoneticam expelles furca, tamen usque recurret'—the principle of phonetic law is usually brought in again by its opponents in the form of some similar but less precise and less satisfactory principle (substratum, superstratum, climatic influence, 'spiritual needs', or the like). In this case, it is the Vulgar Latin stress accent to which an incredible number and variety of developments and 'tendencies', often mutually contradictory, are ascribed: diphthongization (24), syncopation (25), shortening of long final vowels (25), the development of demonstrative pronouns into definite articles (25), desire to avoid hiatus (28), 'hesitation' and merging of unaccented vowels (34), haplology (37),[6] apheresis (39), prothesis (40), vowel assimilation (41), sonorization of intervocalic consonants (46), gemination of consonants (48), palatalized pronunciation of gutturals (54).[7]

Another theory which is given exaggerated importance is that of the late development of Vulgar Latin,[8] and the concomitant notion of an absolute Pre-Romance unity (which is wrongly compared to a supposed absolute unity of American English) lasting all through the time of the Empire and much later. Coupled with this is an exaggerated theory of the importance of ecclesi-

[5] Cf. also, for example, the treatment of *-rį-*; we are told (63) that it shows a 'double development' which 'tends to lose either the *r* or the *į*'; this leads to further inexactitude in the discussion of the suffix *-ariu* (51), which is said to have as a 'normal Italian development' both *-aio* and *-aro*. The inexperienced student reading this would have no idea of the elementary geographical distinction, that the veriest tyro in Italian linguistics should know, between the Tuscan development of *-ariu* > *-aio* (e.g., in *candelaio, fornaio*) and the non-Tuscan development to *-aro* (e.g. *somaro*). Through this laxity in method one of the most clear-cut proofs of the Tuscan nature of the Italian language is lost sight of.

[6] This word, incidentally, is written 'haplogy' throughout—possibly as a humorous exemplification of the development signified?

[7] In this last connection, what of similar developments in Sanskrit and other Indo-European languages where pitch- and not stress-accent prevailed?

[8] A theory which has been definitely rejected by the majority of scholars—cf. for example the reviews of Muller's Chronology of Vulgar Latin by Orr (CR 44.152–3), Bourciez (RCr. II.97.106–8), Marouzeau (REL 8.384–7), Meillet (BSL 31.2.108–12), Hofmann (PW 51.266–70), Moldenhauer (LBl. 52.110–2), etc. If anything, the opposite theory (that the differences in the Romance dialects go back to the different stages of development in Latin at the time of colonization of the various regions) has a good deal more to be said in its favor; cf. Mohl, Introduction à la chronologie du latin vulgaire (Paris, 1899); G. Bonfante, L'italiano è il latino dell' Urbe, ACL[3] 316–9 (1935).

astical and urban conservative influence in Italy even during the darkest Middle Ages.[9]

This confusion and abandonment of sound linguistic method[10] is easily traceable to the underlying 'idealistic' philosophy which permeates the whole book, and which finds its expression in continual references to language as a 'spiritual' phenomenon and to linguistic change as 'psychological', 'individualistic', 'capricious', and the like. This attitude, whose modern exponents have been Croce, Vossler, Bertoni, and others, and which goes back through Goethe and Herder to Vico, is essentially negative, in its refusal to analyze and formulate thoroughly the material studied.[11] The substitute offered in place of scientific analysis is simply the bandying about of words like 'creative expression', 'mental habits', 'psychological factors', and other terms without precise and definite reference.[12] The 'idealists' claim to be the only progressive workers in the field of language study, but the 'idealistic' method, or rather lack thereof, is really an abandonment of the progress made in orderly analysis in the 19th century and a return to the confusion that prevailed in the Renaissance and before. As a result, the inexperienced beginner will get no better training in linguistic analysis from this manual than he would from Cittadini's Origini della volgar toscana favella (Siena, 1604).

In the discussion of 'psychological factors' there results from the 'idealistic' philosophy a decidedly uncritical attitude and a good deal of circular reasoning. Phenomena are explained as due to some kind of 'desire', 'tendency towards self-expression', etc., the only evidence for which is the very phenomenon which is explained thereby. Examples of such petitio principii in this manual

[9] As shown in such statements as 'the historical situation ... indicates a somewhat larger degree of political and cultural stabilization in Italy as against the more unstable condition of France, beset by Norman raids and feudal wars, and of Spain, ravaged by the struggles between Moors and Christians; a greater measure of urban life, as against the widespread ruralization of France ...' (30), and similar assertions elsewhere. (What of the Gothic and Langobard invasions in Northern Italy, the Byzantine and Norman incursions in the South, the Moslem domination in Sicily, and pirate raids all along the coasts of Italy?) As a matter of fact, it is a commonplace of history that Italy in the early Middle Ages had sunk to a lower point of ruin and disorganization than any other Western region (cf. on the economic history of this period, A. Doren, Italienische Wirtschaftsgeschichte 109 ff. [Jena, 1934]; on the slow development of cities, ibid. 119 ff.). The recent efforts of some Italian historians to prove Italian cultural and economic vitality and superiority in the early Middle Ages are of purely political, governmental inspiration.

[10] At one point (11), lip-service is paid to 'sound method' in comparative linguistics, but the book as a whole does not exemplify its application.

[11] Such works as Vossler's Positivismus und Idealismus in der Sprachwissenschaft (Heidelberg, 1904), and Bertoni's Programma di filologia romanza come scienza idealistica (Genève, 1923; BAR I.2), for example, are simply confessions of failure in applying the 19th-century technique, which in no wise reflect upon that technique itself.

[12] The present reviewer has already attempted to point out some of the reasons for objecting to the application of 'idealistic' principles to Romance linguistics (LANG. 14.154–6; Italica 15.239–42), and references to a present 'standstill in Italian linguistics' have been severely criticized in replies by adherents of the 'idealistic' school (AR 22.582; MLN 54.237–8, 55.79–82). The work under review is a very good proof that such a situation does exist and is directly due to the adoption of 'idealistic' principles.

are to be found in the correlation of pitch-accent with 'an aristocratic, oratorical type of language' and of stress-accent with 'the natural tendency of ignorant speakers ... toward self-expression of the violent stress type' (18); in the ascription of the development of the accented vowels in hiatus to 'the desire to avoid hiatus' (28); in the ascription of the loss of the neuter gender to 'psychological factors that rendered the neuter connotation superfluous' (74); in the interpretation of vocabulary development as 'indicative ... of the inner psychological processes of the people involved' (119);[13] and elsewhere.

Another unfortunate result of the 'idealistic' philosophy, with its emphasis on words rather than on facts, is an abuse of rhetorical and flowery language. In this book, for example, there are two whole pages of pure rhetoric on the rise of the early Christian church (20–1), and a number of other passages or expressions go beyond the bounds of sober scientific expression: 'mystery languages' (10); 'the faint rumblings of linguistic revolt' (19); the over-dramatic description of the effect of phonetic change on morphological structure (67) and the 'new order' resultant therefrom; and the like.

A number of comments might be made on individual points, only a few of which can be taken up here. 4: 'the influence which factors of geography and climate may exercise on the spoken tongue'—no such influences have ever been proven to exist. 9: On Chart I, 'The Place of Italian among the world's languages', the lines representing the various linguistic stocks (IE, Semitic, Ural-Altaic, etc.) are shown as all coming out of a large central circle; what right have we to set up such a central circle, implicitly assuming a single origin for all these stocks? 13: 'each Romance tongue would appear [according to substratum and superstratum theories] to be a sort of linguistic sandwich, with Latin forming the meat, but peculiar development brought about by the nether and upper slices of bread'; the wise-crack is good, but the metaphor somewhat mixed. 14: The parallel adduced between Latin distinctions of sermo plebeius, cotidianus, rusticus, and urbanus, and similar 18th-century French distinctions made by Fénelon and Féraud will not hold, since the latter theoreticians were simply imitating Latin terminology. Here and on following pages all kinds of quibbling are resorted to in order to obscure distinctions and prove that the Roman Empire was completely unified linguistically. 17: 'the law of the conservation of energy, which is operative in linguistics as it is in physics, just as inevitably decrees that if a vowel or syllable is stressed and lengthened, the remaining portions of the word must to some extent be slurred and shortened'; this is hardly true, since both quantitative and stress accent can easily exist at the same

[13] The insistence on considering only what is alleged to be 'spontaneous' and 'popular and unconscious development' in language (113) leads to the exclusion of most of Italian historical syntax (ch. IV) on the grounds that Italian syntactical usage 'is to a considerable degree based upon the book rules of the literary classical Latin which the cultured classes had preserved or restored'—a very questionable assertion at best.

This supposed connection between linguistic development and popular (national) spirit, Volksgeist, and the like, is a characteristic of the 'idealistic' school (especially Vossler and his followers), and is doubtless one of the reasons for the official governmental favor shown to this school in Italy and Germany.

time—cf. Hungarian, which has clear quantitative distinctions along with a very heavy stress accent. 26: There is no historical justification for the assertion that the popular speech (not 'Vulgar Latin'!) of West Francia went through such a swift transformation between 750 and 842.

51: The representation of the suffixes *-aticu* and *-ariu* by *-aggio* and *-iere*, respectively, is ascribed to 'foreign influence in phonological development', which is a bad misnomer for quasi-lexical borrowing. 87: In the discussion of the forms of direct address (*voi*, *Lei*), chronological relations and the later origin of the *Lei* form are not made at all clear; cf. Johnston, MP 1.469–75 (1904). 90: 'popular analogical tendency is to some extent aided by grammarians who prefer "regular" to "irregular" schemes'; but, especially in the early Middle Ages, grammarians' preferences can have had but little effect on the speech of the ignorant masses. 117: The use of the auxiliary with intransitive verbs (*essere* used frequently in Italian, *être* less frequently in French, *ser* not at all in modern Spanish) is not a matter of 'hesitation' on the part of Italian nor of 'sweeping regularization by grammarians and academies' in French and Spanish, but a geographical difference between East and West Romance; cf. Velten, ZRPh. 55.172–7 (1935).

121: 'An illiterate speaker of the lowest classes, having a vocabulary of only a few thousand words at his command'—will this old myth about the supposedly small vocabulary of the lower classes never die? Cf. Bloomfield, Language 277. 127: *bravo* < *pravus*; what justification is there for this etymology? A better example for complete change of meaning would be *baro* 'plug-ugly > nobleman' (whether under Germanic influence or not). 128: *poltrona* 'arm-chair < a fitting seat for a poltroon' is an amazing etymology; on *poltrona*, cf. Alice Sperber, WS 2.190–195 (1910). 129 ff.: In the discussion of loan-words, no chronological distinction is made in the examples from the various languages. This is particularly confusing in the discussion of Greek loan-words. 134: Why are political terms like *panciafichista* 'uncomplimentary term for "pacifist" ' and *gufino* 'member of the Gruppi Universitarî Fascisti' brought in?

138–40: The relation between standard language and dialects is completely misrepresented in the discussion of 'Dialect and Language'. The evolution of the Italian standard language was not 'the fruit of a free, esthetic choice' (139), but the result of economic and consequent cultural penetration and domination of the rest of Italy by Tuscany, and only secondarily a result of beauty or literary prestige. Linguistic borrowings (*mangiare*, *viaggio*; *strada*; *somaro*) do not change the fundamental base of a standard language, which in this case is Tuscan. The 'Volgare Aulico' never existed at all, outside of the imagination of Dante and the 'anti-Tuscans'. 146: The map of the Italian dialects is poorly drawn, cf. the isoglosses shown on the maps in Rohlfs, Struttura linguistica. Some of the spellings of dialect names here and elsewhere are peculiar: Abbruzzian for Abruzzese, Friulan for Friulian, etc. 163: Why give Trombetti's interpretations of Etruscan texts? Cf. G. Bonfante, CP 35.323, fn. 1 (1940). 207: The Neapolitan 'popular song' given here is actually a sonnet by Salvatore di Giacomo, and no more of popular origin than Heine's Lorelei.

In view of this discussion, it seems fully justified to repeat that Italian linguistics needs revitalization by a new infusion of scientific method. For the future, much work remains to be done, especially in the assimilation of the material contained in the AIS and other work done during this century. Among the works most urgently needed are the following:

1. A definitive handbook of phonology and morphology, to replace the Grandgent and the older Meyer-Lübke.
2. A much more extensive and thorough treatment of historical word-formation and syntax than has been given to date.
3. An historical presentation of the development of the Italian dialects.
4. A sound etymological dictionary of Italian.

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A MEDIEVAL SPANISH WORD-LIST: A PRELIMINARY DATED VOCABULARY OF FIRST APPEARANCES UP TO BERCEO. By VICTOR R. B. OELSCHLÄGER. (Published in cooperation with the Modern Language Association of America.) Pp. x + 230, lithoprinted. Madison: University of Wisconsin Press, ©1940.

The field of Old Spanish lexicography has been so little cultivated that Dr. Oelschläger's Word-list is a welcome contribution. Here, for the first time, one has access to the vocabulary of several hundred documents of the period between 900 and 1220, including those printed in Menéndez Pidal's Orígenes del español and his Documentos lingüísticos. While the number of documents is large, their total extent is small and the compiler has enriched the material by the inclusion of those literary texts which can be dated before 1220, like the Cantar de mio Cid, and the addition of two works of the first half of the 13th century, those of Berceo and the Libro de los tres reyes de Oriente. The range of the list has in this way been almost doubled.

The texts included are limited to the Spanish dialects—Castilian, Aragonese, Leonese, etc. Catalan, Gallician, and Portuguese documents are specifically omitted. In this connection, it should be remarked that since the scribe of the Tres Reyes manuscript was almost certainly a Catalan, forms like *açi* and *libre* which appear in the title of the poem can hardly be called 'Spanish'. The problem of deciding what forms may properly be called 'Romance' is a difficult one, especially in documents which are bilingual and in which the Latinizing habit of the scribes continues well into the 13th century. Dr. Oelschläger has wisely preferred to accept doubtful forms, rather than to omit them, with the result that in many entries it is possible to trace the whole story of the development from a purely Latin word to its ultimate Spanish form.

The decision to limit the gathering of documentary material by the year 1220 was confessedly one of expediency, since the number of texts increases 'by an almost geometric progression' (vii) after that date. There is, of course, a limit to the amount of ground which any individual worker can cover. But in this case one may question whether it would not have been more profitable for students of Spanish, if the author had carried on his extracting of the documents

as far as possible rather than attempt to include the Berceo vocabulary, the materials for which are accessible in the Thomas Concordance and, imperfectly, in the Lanchetas Vocabulario.

One of the noteworthy features of the list is the inclusion of all forms of the verbs. In general, the particular forms are entered under the infinitive only if the infinitive is actually found; in other cases they are entered under the 'next available subsequent form'. But there are a number of variations from this practice. Occasionally an infinitive is entered in brackets or parentheses, as [*annadir, ennader*] or (*fuir*). A more serious deviation is found in the inclusion of infinitives which appear in Menéndez Pidal's vocabulary of the Cid, even though the infinitive form does not occur in the text. In some cases this involves forms of doubtful validity for the period covered, such as *cubrir, cuntir, descubrir, escurrir*, or *subir*. On the other hand, the failure to assume an infinitive has resulted in separate entries for the weak and strong preterites of [*rader*]: *radio* and *raxo*.

The most serious weakness of the list is the lack of a consistent practice in the matter of entry. The author has almost nothing to say about the problem in his Introduction and this is reflected in the text itself. It is true that he has for the most part given adequate cross-references, but that does not absolve him from the necessity of establishing some kind of system. The problem is made the more complicated by the fact that in several of the texts, particularly the Cid and the works of Berceo, the manuscripts on which the texts are based date from the 14th and 15th centuries and therefore do not represent the orthography of the period studied.

Questions concerning entry arise on every page. Some of these are matters of spelling, involving variations between *b* and *v* (*ravia* but *rubio*), between *ç* and *z* (*vezindad* beside *vecino*), between *ç* and *sç* (*pareçer* v. but *parescer* n.; cf. *connosçer*), between *m* and *n* before labials (*emperador* but *enpeçar*), between initial *f* and *h* (*forro* and *horro* separately entered; so also *alfagara* and *alhagala, afijado* and *ahijado, alfaqui* and *alhaquim*), between initial *h* and forms without *h* (*honor, honestad* but *ondra, ondrar*; *huesso* but *uesa*). Others involve the question of what is a word. If *asconder* and *esconder* are to be entered under *esconder*, should not *abscondido* be included? If *zoch* is entered under *azogue*, why should *azequia* and *zequia* have separate entries? Are *agora* and *ahora* to be considered the same word, or *acayaz* and *alcaide*? If they are, why should there be separate entries for *cosdra, cozedra*, and *culcitra*? Should not *actor* 'autor' be considered a different word from *otor* 'fiador'? Are not verbs like *aborrir* and *aborresçer* or *acaer* and *acaesçer* really two different words, rather than one? Finally, should prepositional phrases be entered under the preposition rather than the noun, adjective, or adverb with which they are used?

The list ends with a useful bibliography of source and reference material and a chronological index of the documents studied. It is excellently printed with a minimum of typographical errors (cf. *umplir* for *cumplir* 64; *aqualido* for *squalido* 187; *vasallaos* for *vasallos* 216). Even though the author has not been able to solve some of the problems of meaning, he has added greatly to our knowledge of

Old Spanish and has provided a tool which will prove invaluable to subsequent workers in the field.

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OLD ENGLISH PERSONAL NAMES IN BEDE'S HISTORY: AN ETYMOLOGICAL-PHONOLOGICAL INVESTIGATION. By HILMER STRÖM. (Lund Studies in English 8.) [Lund Univ. Diss.] Pp. xliv + 181. Lund: C. W. K. Gleerup, 1939.

The subtitle of this work, 'an etymological-phonological investigation', hardly does justice to its scope, for it is also an important contribution to the general subject of English or Germanic onomastics. As such it invites comparison with another excellent study appearing in the same year, H. B. Woolf's The Old Germanic Principles of Name-Giving.

Woolf's work is of course more inclusive, both geographically and chronologically, for he deals with the personal names of all Germanic tribes during the whole Migration period. His survey of English names extends from approximately 450 to 1066, going somewhat beyond these bounds in the case of names occurring in OE poetry and in non-royal genealogies. His English material is drawn from a variety of sources: chronicles, lives, wills, charters, etc. Since he is not concerned with phonological matters, he cites only the regularized forms in Searle. Ström, confining his investigation to the names in Bede's HE and being concerned with phonology, investigates the names more thoroughly, giving considerable attention to variants as they occur in MSS M, N, C, and B.

Ström's more careful analysis of part of the primary data used by Woolf enables one to see if Woolf has been led into any erroneous conclusions by using Searle's regularized forms. He has not. In fact it is only in two or three particular instances that Ström's work raises doubts about forms that Woolf has used. Woolf's *Æthelburg* (32) may not have the final name theme *-burg* but *-berg* (Ström 8–9 and 155). Woolf (63) misses several examples of variation if *Al-* and *Ealh-* are originally the same name theme (Ström 5). Ström (23) doubts that *Hlothhere* (Woolf 97) is the right name of the West Saxon bishop. But beyond these minor particulars I have found no instance where Ström's work challenges the validity of any portion of Woolf's. In checking the names in Woolf's genealogies for Deira and Bernicia I found no discrepancies in Ström.

Ström devotes a portion of his Introduction to the discussion of Old English or Germanic naming principles, which is the subject of Woolf's investigation. In the main their views are similar. They agree that variation (as in *Swīþbeorht* and *Swīþwulf* with end variation, or *Wulfhild* and *Beorhthild* with front variation, etc.) probably preceded alliteration as a naming principle. Ström (xxxv) states that variation 'seems to have persisted ... perhaps down to the eleventh century', but Woolf (123 ff., 252) shows that it lasted longer. Ström says (xxxvi) that repetition (the use of the same name) 'does not seem to have been widely adopted in England, at least in Old English times'—which in general Woolf (254) agrees with, though he is more specific and lists not a few instances of its use, especially from the 10th and 11th centuries. Both Ström (xxxvi f.)

and Woolf (263) point out that OE names are frequently meaningless, Ström being perhaps a bit more emphatic about the probability that at an earlier time names had a clearer meaning (see below). Ström's discussion of short names is similar to Woolf's in its general conclusions. Ström's statement, 'Alongside of compound names there existed ... uncompounded ... names' (xxxvii), may be erroneously interpreted as meaning that all uncompounded names are by-names ('alongside of'). The terms 'monothematic', 'short', and 'uncompounded' are frequently used synonomously, a practice that is not conducive to clarity or accuracy. For example, under 'uncompounded names' we find *Eafa*, 'perhaps shortened from such OE compounds as *Ēad-*,' etc. (68) and *Saba*, 'a short form of *Saberct*' (76), which is a compound of *sa* and *berct*. These names, and many others like them, are short names, but not monothematic or uncompounded, which is the general term Ström uses. There is a similar lack of precise terminology in his use of 'hypocoristic' and 'simple' names. Woolf (3, 259 ff.) also fails to differentiate these various terms sharply. Ström suggests that about one-third of the names in 'early Anglo-Saxon' are short. From Woolf, though he nowhere has summarized the proportion of short and uncompounded names in OE generally, I get the impression that this estimate is pretty high. As to the role of women in naming, Ström recognizes it specifically in his discussion of variation and implies it in his discussion of alliteration, but does not go into detail as Woolf does in his book and article (Mod. Phil. 36.113–20).

Besides this survey of OE or Germanic personal naming customs, Ström includes in his Introduction a short discussion of Bede's life and work (which, considering the fact that the volume is obviously not for the layman, might well have been omitted) and also an account of the main MSS of the HE.

The main body of the work is divided into three parts: I. Etymology, II. Phonology, III. A Register of the names dealt with, their variants, and brief biographical notices of persons thus named. Concerning Part III it is enough to point out that it serves also as a convenient index.

Part I consists of an etymological analysis of the name elements or themes. It is divided into two sections, the first dealing with the themes in compound names, the second with those in short names. This is not a mechanical division but one which, as Ström shows, his material demands.

The emphasis in both parts is upon semasiology. Though inevitable, this probably calls for some comment. It is usually assumed or conjectured that originally Germanic names, whether compounded or not, were meaningful. However, with the adoption and subsequent operation of the naming principles of variation and alliteration, meaning gradually yielded to form, and this of course ultimately resulted in names which were practically meaningless like *Friþuwulf* 'peace-wolf' or *Wīgfriþ* 'war-peace' (cited by Woolf 25). Now since this is well known, it might seem at first glance rather futile for Ström to give so much emphasis to semasiology. Closer inspection however shows that he is quite justified. In the first place, he has done a thorough job of collecting, analyzing, and weighing the previous scholarly work—a truly formidable task. In the second place, he has, here and there, shed some new light on the etymo-

logical problems involved. Like other Scandinavian linguistic scholars, Ström is keenly aware of the importance of hypocorism (I include Lallwörter or nursery talk in the term).

Another general point that Ström makes, and which I think is sound, is that 'it is not self-evident that a word should have the same meaning when it appears in a name as when it occurs independently' (44). Thus *Beorhtsige*, composed of elements meaning 'bright' and 'victory', might have meant 'one who wins brilliant victories' (48). For other plausible conjectures like this see *helm*, *mund*, etc. Closely allied to this point is another: that a given name-element may have a somewhat different meaning depending upon whether it is used as the first or second element in the compound: see *here* (46, 51), *burg* (53), *red* (55), etc.

The rest of Ström's etymological work consists of arranging the various name elements into certain logical categories. In the short names, the basis for his categories is clear: it is purely formal. Accordingly, the name elements fall into three classes: non-shortened names like *Cearl*; shortened names like *Ælli*, perhaps from an original compound of *Alf-*; and names formed by suffixal derivation, like *Yffi* from *Uffa*. In the compound names, however, there are several bases for his categories, and the result is neither clear nor revealing. What is needed is not necessarily a different categorization but some general statement about what the present categories show. Incidentally, this failure to generalize is present throughout the work, and is the single important flaw.

Part II, on phonology, is generally excellent. It lacks, however, a general or systematized discussion of quantity changes. In dealing with short names Ström points out (xl) that gemination is frequent in hypocoristic (especially Lall-) names. This I think is entirely sound, but the matter should not rest here. In the first place, what kind of gemination is it: is it the result of assimilation (as *Eappa* < *Earp-*) or is it true gemination (as in *Acca* < *Ac-*, *Sebbi* < *Sāba* or *Sāberht*, *Tunna* < *Tun-*)? Gemination of the latter type poses a further question, which has been much discussed (see Bülbring, Altengl. Elementarbuch §§550 and 349; Luick, Hist. Gramm. §206b, Anglia Beiblatt 14.302; Eliason and Davis, The Effect of Stress Upon Vowel Quantity 7–8 and 54–5): is the gemination the cause of the vowel shortening or merely a graphic device used to indicate it? There are scattered comments about vocalic quantity changes, but they are hardly adequate and do not take the place of a general discussion of quantity.

The few examples cited (133) to indicate that the development of PGmc. *þ* probably still was somewhat of a bilabial are not conclusive. The *b* instead of *f* in *Gebmund* looks like assimilation, and the *b* in *Ælbfled* may be due to dissimilation. Scribal error seems more plausible than metathesis of *n* in accounting for *Badudeng* (137), but Bülbring (§523) supports Ström's assertion.

Part II also contains a section concerning the Latinization of the names, the orthography, and the dialect. Though brief, the discussion is—like the whole volume—excellent in its thoroughness and accuracy.

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AMERICAN ENGLISH GRAMMAR: THE GRAMMATICAL STRUCTURE OF PRESENT-DAY ENGLISH WITH ESPECIAL REFERENCE TO SOCIAL DIFFERENCES OR CLASS DIALECTS. By CHARLES CARPENTER FRIES. (The report of an investigation financed by the National Council of Teachers of English and supported by the Modern Language Association and the Linguistic Society of America.) Pp. xii + 314. New York: D. Appleton-Century Co., 1940.

This book is unique. It is the first grammatical survey of a 'civilized' language to be made in a truly objective way. The requirements for objectivity are not only a clear head and the will to be objective, two things that many grammarians have brought to the task, but also one thing more, which Professor Fries is the first to use: an essentially objective method, which is as much as to say a statistical method. No matter how good his intentions, a grammarian cannot be sure he is telling the truth about the current usage with respect to interrogative *whom*, or the social standing of *those kind of people*, unless he has counted occurrences of them in a fair sample of English. In the present book we have, at last, the logical result of this maxim: a grammar of American English entirely distilled from a mass of letters written in English by Americans.

The letters were written to the United States government or its officials roughly twenty years ago. Only those letters were used where associated official reports gave full information on the writer's schooling, work, wages, and position in the community. Such items, together with non-linguistic internal evidence (handwriting, spelling, punctuation) were used to classify the letters—before they were analysed linguistically!—into three groups: I Standard English, II Common English, III Vulgar English. Letters not classifiable with satisfactory certainty were not studied.

Throughout the book, every point is voluminously illustrated from the letters with comments on the relative frequency of competing formulas. It is regrettable that not every comment includes exact figures: a great many figures are given, but they should always have been reported. However, the comments are carefully worded and doubtless give as accurate an impression as non-numerical words can.

Here are some of the more amusing determinations; it should be remembered that the Standard English letters were written by professional men who were college graduates. *These* (or *those*) *kind* (or *sort*) *of* is the characteristic formula of Standard English. Such violations of formal concord as *the family occupy a house, if any of the officers are, the organization and work of this office has increased,* are characteristic of Standard English and seldom appear in Vulgar English. Only one example was found of a noun in its possessive form as the subject of the verbal in *-ing*; the normal formula is e.g. *there is no record of this officer having been attached.* Standard English uses only *who*, never (in these letters) *whom*, as interrogative, e.g. *who do you refer to?*. A characteristic device of Standard English is to expand a preposition so as to get e.g. *for purposes of recreation* instead of *for recreation*; Vulgar English does this much less, but has its own favorite device of adding an adverb to a preposition, e.g. *up until* for *until, out by* for *by* or *near*. The split infinitive was found 18 times in the Standard English letters, only twice in the Vulgar English letters. The Vulgar English

letters never used *in order to* or *so as to* with the infinitive of purpose, but did use *for to* in one letter; otherwise they used only the plain *to* (123 occurrences). But Standard English used *in order to* or *so as to* 11 times out of 74.

From these and other items it appears that Standard English is characterized by fullness of expression occasionally extending to excessive analysis, and by tight syntactical organization (split infinitives!), with formal concord playing a less important role than logical clarity; Vulgar English is marked by the opposites of all these and by certain forms, e.g. *hisself* or *maybe* (Standard English only *perhaps*).

From the paucity of Group II citations, and from the character of those which do appear, we can draw an interesting conclusion which Professor Fries has confirmed by correspondence: apparently there is no such thing in the United States as a middle-level 'Common English', for the language of the Group II letter-writers is simply a mixture of Group I and Group III formulas without any distinctive character of its own.

The present book is not a complete grammar such as a foreign student would require; rather it is a survey of the grammatical devices of English complete enough to clear up all those questions which might trouble a native speaker, if not all those which might interest a grammarian. Thus the book reports the use of *get* and of *be* with past participles, but it does not deal with possible criteria for deciding whether *got run over* or *was run over* would be the normal translation of a particular instance of German *ist überfahren worden*. Indeed, only the second formula was labeled 'passive voice'.

In spite of such peculiarities, which the theoretical grammarian may feel to be defects, he will find what he wants in this book. After all, its avowed aim is to provide a scientific foundation for a realistic program of English teaching in our schools, and this the book does most admirably.

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TOPOGRAPHIC TERMS IN VIRGINIA. By GEORGE DAVIS MCJIMSEY. (American Speech Reprints and Monographs, No. 3.) Pp. viii + 151. New York: Columbia University Press, 1940.

It is an axiom of philological study that a scholar does not bring out a book until he has made a thorough survey of all the material pertinent to his subject. It is true, of course, that such a procedure demands time and patience, and that many hours' labor will in the end seem wasted; but it is doubtful that any definitive work can be produced unless such a method is followed. Mr. McJimsey's book, which is already familiar to readers of the journal American Speech, where it recently appeared in serial form, fails in this respect. On pp. 11–2 the author lists his sources as follows: '(1) governmental documents, (2) Virginia newspapers, (3) diaries and journals kept by Virginia explorers, pioneers, and surveyors, (4) other works incidentally descriptive of Virginia, (5) geological surveys, gazetteers, and purely informational treatises on the soil, climate, and topography of Virginia or the several counties in the state.' And then he goes on to say that 'from each of these groups at least one outstanding item (in some

groups, several items) was selected and carefully read with an eye not only for topographic terms but for all information concerning such terms.' It is not surprising, therefore, to discover that the Dictionary of American English, now in its third volume, includes quotations from Virginia that antedate those in this study. See, for example, *back country, canal, cape, cleared ground.*

It is unfortunate, too, that here and there throughout the introduction Mr. McJimsey is guilty of inaccuracies which prejudice the reader against the work. For example, when he finds the statement (5) that Virginia seceded in 1862, he assumes that the author is unmindful of the fact that the first important battle of the Civil War, the First Battle of Manassas, was fought in Virginia in July, 1861, shortly after Richmond became the capital of the Confederacy. When he reads (7) that 'the Valley' is really five valleys, through which run the Shenandoah, the James, the Roanoke, the New, and the Holston, he concludes that Mr. McJimsey is unaware of the exclusive use of this term today for the Shenandoah Valley. And there are other remarks to which exception might be taken. It is said (33) that occasionally 'the Allegheny Mountains are called the Allegheny Hills'; surely this is not present-day usage. The reference (36) to the literary connotations of *forest* should be modified in light of the several 'national forests' now established in the state and the wide currency of the term *forest fire.* Finally, the suggestion (28) that the term *fork* originated in Virginia is proved incorrect by the DAE, which gives a quotation from Massachusetts that antedates those from Virginia.

After a forty-page introduction devoted to 'general considerations', 'source of material', and 'analysis of terms', comes the core of the volume—a glossary of 737 topographic terms. Each term is defined (or referred to an adequate definition in the Oxford English Dictionary or Webster's New International), and various quotations illustrate the use of the term. Here, indeed, there is a wealth of material, but one wishes that Mr. McJimsey had done more than he does. For instance, there is no statement as to whether a term is now in use, and the quotations often fail to supply this information; thus the last illustration of the use of *ford* is from the 18th century. Only occasionally is the suggestion made that a word may exist only as a literary term; one wonders whether other terms (*bayou*, for example) should not also be thus designated. Now and then pronunciations are given, though in their general omission Mr. McJimsey has the unfortunate example of the DAE. At any rate, one would like to know more about the chronology and the social acceptability of the two pronunciations of *creek* (58).

It is likely, too, that place-names, which Mr. McJimsey assigns (3) to 'the local historian', would have been of considerable value for this study. I think at once of such places as Big Stone Gap, Glade Spring, Grottoes, Mount Jackson, Narrows, Seven Mile Ford, Stuart's Draft, The Plains, and Weyer's Cave. It would be interesting, likewise, to have a note on the change from *Luray Cave*, the objective of many an all-day excursion about the turn of the century, to the contemporary *Luray Caverns.*

The primary value of this study is to the lexicographer, and its extent is only partially shown by the following terms which are illustrated by quotations earlier

than those of the DAE: *anchorage ground, aqueduct, backbone, barren, bay, bay shore, bayside, beach, bear wallow, beaver dam, body* (of land), *bog, boiling spring, border, branch, break, brook, buffalo ford, buffalo lick, canebrake, cataract, channel, clay-bank, cliff, creekside, cypress pond, cypress swamp, dam, deadening, defile, desert, divident, dividing ground*(*s*), *dividing ridge, dry run, Eastern shore, falling ground, flatwoods, fording, fording place, forest, fresh land, frontier, glade, gorge, gut, hammock, head branch, headspring, high land, hill, hole, hot spring, hunting ground, Indian field, junction, knob, lake, landing, landing place, level, lick, licking place, low ground, marsh, marsh ground.*

On pp. 23–5 Mr. McJimsey lists those words not defined in either the OED or Webster's NID. Although it is true, as he cautiously admits, that some of these compounds may be too 'loose' for inclusion in a dictionary, it is nevertheless surprising that so large a number are omitted from the DAE. The Chicago lexicographers might also have profited from a study of the various meanings of some of these topographic terms, for Mr. McJimsey goes considerably beyond them in defining such words as *cod, curl, dam, drain, gut.*

The faults of this volume, it may be said in summary, are those that mark a pioneer work. If the author had had access to the material on which the DAE is based, he would have done a better job. As it is, he makes a distinct contribution to our knowledge of a limited portion of the American vocabulary.

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LOUISIANA STATE UNIVERSITY

NOTES

The Library of Congress in cooperation with the Royal Asiatic Society of Bengal at Calcutta and other Indian institutions can now service specific orders for microfilm copies of manuscripts in the libraries of India as listed in the existing printed catalogs. The development of this service was facilitated by a grant from the American Council of Learned Societies. Charges will be within the range of the usual inexpensive cost of the existing services. Inquiries and requests should be addressed to Indic Studies, Library of Congress.

A GROUP FOR HAMITIC AND SEMITIC LINGUISTICS was organized in December 1940 by Semitists meeting during the sessions of the Society of Biblical Literature. The Steering Committee consists of W. F. Edgerton, H. L. Ginsberg, A. Goetze, Z. S. Harris, A. Jeffery, and E. A. Speiser. Scholars interested in joining the Group may communicate with Prof. Ralph Marcus, Philosophy Hall, Columbia University.

LA SOCIÉTÉ GENEVOISE DE LINGUISTIQUE was organized in May 1941 under the direction of Charles Bally and Albert Sechehaye, with the object 'de contribuer d'une façon générale à l'avancement de la science linguistique, principalement en étudiant les systèmes de langues à la lumière des principes et des méthodes de Ferdinand de Saussure'. The Society will issue a journal, Les Cahiers Ferdinand de Saussure, containing articles, reviews, and proceedings. Membership is open to scholars, societies, libraries, and institutions of all countries; prospective members may address the Secretary, M. Henri Frei, Perly, canton de Genève, Switzerland.

The University of California has established a new series of publications in linguistics. The boards of editors for the series are C. D. Chrétien, M. B. Emeneau, and H. H. Vaughan at Berkeley; and A. K. Dolch, W. Matthews, and Dorothea Woodworth at Los Angeles.

The following brief message from Albert Debrunner, one of our first-elected honorary members, is dated Bern, March 31, 1941:

'Vor einigen Tagen erhielt ich Language 17.1. Ich freue mich sehr darüber, dass die Zeitschrift trotz den Weltereignissen ihren Weg weitergehen kann und danke der Linguistic Society, dass sie trotz der Verlängerung und Unsicherheit der Reise das Heft geschickt hat.'

We regret to anounce the death of Henry Hyvernat, S.T.D., a member of the Society since 1926, on May 29, 1941.

The following have been elected to membership in the Linguistic Society:

BERG, CORNELIS CHRISTIAAN, Ph.D., University of the Netherlands Indies; Tanah Abang 101, Batavia-Centrum, Java, N.E.I.; *Indonesian languages.*

BEVANS, CALEB ARUNDEL, Ph.D., Instructor of French, University of Chicago, Chicago, Ill.; *Medieval French.*

BODMAN, NICHOLAS CLEAVELAND, 1243 N. State St., Chicago, Ill.; *Sino-Tibetan and American Indian.*

BRUNSTETER, DELLA IRENE, M.A., Assistant Professor of French, University of Oklahoma, Norman, Okla.; *American Indian languages.*

CARPENTER, RHYS, Ph.D., Professor of Classical Archaeology, Bryn Mawr College, Bryn Mawr, Penna.

CORNYN, WILLIAM STEWART, A.B., Assistant in Germanic Languages, University of California, Los Angeles, Calif.

FREIMAN, A. A., Zverinskɛia 40/42 Kv. 41, Leningrad 49, U. S. S. R.

GOODWIN, REASON ALVA, P.O. Box 453, Palatine, Ill.; *Indo-European.*

HALL, JOSEPH S., M.A., Department of English, Brooklyn College, Brooklyn, N. Y.

HURD, HELEN, 13 North Plank Road, Newburgh, N. Y.

KLUCKHOHN, CLYDE, Ph.D., Associate Professor of Anthropology, Harvard University; Peabody Museum, Cambridge, Mass.; *American Indian languages.*

KÖKERITZ, HELGE K. A., Ph.D., American-Scandinavian Foundation, 116 East 64th St., New York, N. Y.; *English phonology, English place-names, English dialects.*

SACHS, A., PH.D., Research Assistant on Assyrian Dictionary project, Oriental Institute, University of Chicago, Chicago, Ill.; *Akkadian, comparative Semitic linguistics.*

SCHACH, PAUL, A.M., Instructor in German, Albright College, Reading, Penna.; *Germanics.*

SEBEOK, THOMAS ALBERT, B.A., 1166 East 61st Street, Chicago, Ill.; *English, Hungarian.*

SMITH, MABEL Z., M.A., teacher of Romance languages, Granite High School; 674 Sixth Avenue, Salt Lake City, Utah; *Spanish linguistics.*

SUSMAN, AMELIA, 5416 38th Avenue S.W., Seattle, Washington.

ZIMANSKY, CURT A., Ph.D., Instructor in English, University of Iowa, Iowa City, Iowa.

PUBLICATIONS RECEIVED

We acknowledge here the receipt of such works as appear to bear on the scientific study of language. The publicity thus given is regarded as a full return for the presentation of the work. Reviews will be printed as circumstances permit, and copies will be sent to the publishers of the works reviewed.

Members of the Linguistic Society who wish to review any of the books here listed are invited to communicate with the Editor. Books reviewed become the property of the reviewer.

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SOME RELATIONS OF LINGUISTICS AND ETHNOLOGY[1]

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[The paper illustrates the multiple relations of linguistics and ethnology by several discrete problems. See the last paragraph.]

I

The Algonkin Indian languages are spoken in three areas. The first stretches from Hudson Bay to Cape Hatteras; the second and third, much smaller, lie at the foot of the Rockies in Canada and in the United States respectively.

The languages of this family classify into four fundamental groups or branches: Central-Eastern, Cheyenne, Blackfoot, and Arapaho.[2] These are so differentiated that their divergence must be old: perhaps a thousand, perhaps even two thousand or more years old. The four branches coincide with the three areas, except that Cheyenne has in the 19th century been spoken in the Arapaho area. The Cheyenne represent a recent drift from Minnesota westward into the habitat of the Arapaho branch in the later 18th century and the first decades of the 19th. Accordingly, history and comparative classification are in accord.

Ethnologists, however, have tended to project the Cheyenne westward movement, from an eastern farming to a western nomadic life, to the Arapaho also.[3] There is no shred of historic evidence for such a migration by the Arapaho in recent centuries, and the linguistic classification makes it improbable. Yet the erroneous inference dies hard, and persists in the literature. Why? Because it simplifies the picture. It is easier for speculating ethnologists to treat Algonkin as an undifferentiated unit colored green on the map, than to take cognizance of the historically significant classification worked out by comparative Algonkinists.

II

Some years ago, I became aware that a group of five Indian tribes in northwestern California possessed substantially identical kinship institutions, while their systems of kinship nomenclature were reducible to two quite different types or plans.[4] On the one hand, Tolowa, Hupa, and Karok followed a plan or logic of nomenclature which has many parallels in northern California and elsewhere. On the other, Yurok and Wiyot used a logic of kinship which does not occur elsewhere in native California and is rare in North America. Thus, uncles are designated by a single term instead of being differentiated into father's brothers

[1] Presidential address read at the 17th annual meeting of the Linguistic Society, December 1940.

[2] T. Michelson, Preliminary Report on the Linguistic Classification of Algonquian Tribes, Bur. Am. Ethnol. Rep. 28.221–90b (1912).

[3] J. Mooney in Hdbk. Am. Indians, Bur. Am. Ethnol. Bull. 30.1.72 (1907, art. Arapaho); F. Eggan, Social Anthropology of N. Am. Tribes 35–6 (1937).

[4] A. L. Kroeber, Yurok and Neighboring Kin Term Systems, Univ. Calif. Publ. Am. Arch. Ethn. 35.15–22 (1934).

and mother's brothers; and the remainder of the Yurok-Wiyot plan is in consonance with this principle. At minor points, each of the two logics has been invaded by influences of the other, and secondary modifications have resulted. But in the main the two plans or systems remain essentially distinct.

Kinship nomenclature being a part of language, it is significant that two of the three tribes of one type, Tolowa and Hupa, are Athabascan-speaking. The languages of the two tribes of contrasting kinship type, Yurok and Wiyot, have long been suspected of being related, and subsequently Sapir included them in his extended or super-Algonkin family, to which he also assigned Salish, Nutka, and Kwakiutl, of the region of Puget Sound and British Columbia. This super-Algonkin family has not yet been philologically demonstrated; but there is a preliminary case for it.

Now, the Salish-Nutka-Kwakiutl kinship-term logic is that of Wiyot-Yurok; and this logic does not occur consistently elsewhere in native North America. This bit of independent cultural evidence as to connection therefore points in the same direction as Sapir's linguistic conjecture. It goes farther: it suggests that the connection of Yurok-Wiyot with Algonkin proper may have been through Salish-Nutka rather than direct. We are here in somewhat speculative terrain, and I do not wish to strain the point. But it is at least possible that in this case ethnology has given linguistics a reenforcing clue toward the sharper formulation of a problem.

III

Of the many relations between linguistics and ethnology, the primary one perhaps is the fact that the ethnologist studying one culture can do his job with completest thoroughness only through the medium of the native language. The comparative ethnologist is likely to want most from linguists their findings as to speech relationship. Linguistic classification has obvious import in the historical aspects of any cultural situation. It is likely to be a linguistic classification which is the most clean-cut and useful classification that can be made.

Generally the ethnologist, unable to cope with many languages, wants nothing but the results of a speech classification. To the linguist, of course, classification is largely a starting point. Consequently ethnologists are often satisfied with a classification based on mere inspection, provided this is unbiassed and reasonably careful, whereas to the linguists such a classification is merely a preliminary indication of a problem to be attacked by the strict rules of comparative method.

The famous Powell classification of native languages of America north of Mexico was made more than fifty years ago. Powell, as director of the Bureau of Ethnology, correctly felt the need of classification as an aid to the organization of ethnological study of the continent. His own training for his task was in geology; that of his chief coadjutor, in ornithology. This sounds fantastic, but actually it worked well. The classification was sober and practical, and to a large extent is still in use in American ethnology. Where there was any doubt as to relationship, Powell leaned backward, and kept languages separate. This

resulted in his recognizing more stocks or families than can now be maintained. But where resemblances subsequently became convincingly apparent, it has been an easy matter to enlarge and consolidate the families. At any rate, his work did not lead to the fatal mistake of over-simplifying the situation in advance. In several of his families, such as Algonkin, Athabascan, and Siouan, the beginning of a comparative philology has been worked out. Even where he was over-conservative, as when he kept Shoshonean, Sonoran, and Nahua apart, progress was not blocked. The kinship of these three groups was soon recognized, and before long Sapir laid the permanent foundations of comparative Uto-Aztecan philology.[5]

Rather different has been the effect of another type of classification, in which Sapir was the leader in America.[6] These may be called provisional classifications by speculative intuition. The super-Algonkin mentioned is an example. These classifications depend little on simple, straightforward layman's inspection—indeed, pass far beyond it. But they also go far beyond the painfully slow results of orthodox linguistic comparison. They operate primarily with insights into what may be underlying equivalences, but which, if real, are heavily disguised in the present-day forms of the languages. This spotting of resemblances deals perhaps even more with structure than with content. The process is essentially one of intuitional guessing. Its value is in stimulating new problems. In the hands of a master like Sapir, the procedure is likely to have some residual value even where he guessed wrong. But the dangers of the procedure are obvious; especially as soon as the tenuous working hypotheses begin to be construed as established findings.

Many anthropologists, being incompetent as linguists, tend to be interested not in how linguistic results were arrived at, but in the results as something ready-made which they can apply to their own purposes. Their temptation is increased by the fact that the super-families of the intuitional method are large, and heavily simplify the total picture. When such simplistic pictures are used as foundations for broad theories of cultural development,[7] the results are likely to be regrettable.

What such anthropologists overlook is that even if the extended linguistic groupings should prove to be genetically valid, their point of unity, from which the present differentiation proceeded, must lie so far back in time as to extend beyond anything on which there is ethnological or archaeological evidence. For instance, a Macro-Penutian super-family is made to include Mayan, Uto-Aztecan, other languages of Mexico, and still others as far distant as California and British Columbia.[8] Even if all these highly diverse idioms are ever shown to be really related, their common origin must be estimated as dating back some-

[5] Soc. Américanistes Paris, Journ. 10.379–425 (1913); Am. Anthr. 17.98–120, 306–28 (1915).

[6] E. Sapir, Enc. Brit., 14th ed. (1929, art. Centr. and N. Am. Languages).

[7] H. S. Gladwin, Excavations at Snaketown: II. Comparisons and Theories, Medallion Papers, no. 26, 1937.

[8] J. A. Mason, Native Languages of Middle Am. (ch. V), and F. Johnson, The Linguistic Map of Mexico and Centr. Am. (ch. VI), in C. L. Hay et al., eds., The Maya and their Neighbors, 1940.

thing like say ten thousand years, according to the gauge of average experience of historically recorded linguistic change. But ten thousand years is several times longer than the period for which any reasonably conservative ethnological or archaeological reconstruction can at present be made for native America. In short, even if the linguistic guesses were true, they would not be relevant to data which the anthropologist controls.

IV

A special but important problem is raised by Sidney Ray's work on Melanesian Island languages of about fifteen years ago.[9] This book bears on a fundamental problem of linguistic process and change, although Ray himself does not appear to have been wholly conscious of these wider implications. The Malayo-Polynesian languages, also called Austronesian in recent decades, are spoken for the most part by brown-skinned peoples—Indonesians, Micronesians, Polynesians. As generally defined, they are also spoken by Melanesians whose physical type is incontestably Negroid. These Negroid Melanesian populations are the less numerous, are backward culturally, and inhabit remote islands. There has therefore been little doubt that this black and woolly-haired population has at some time in the past been subjected to a migrational contact which led it to adopt Malayo-Polynesian speech.

Ray however insists that the Malayo-Polynesian vocabulary ingredient in any Melanesian language is a minority element. Malayo-Polynesian 'words form only a small proportion of the word-store of any single language'; though the non-Malayo-Polynesian element 'cannot be shown to have ... any community of origin.' The Malayo-Polynesian component has 'the characteristics of a pidgin-tongue.'[10]

On the other hand, these same languages, as Ray treats of them in detail, share structural and relational features with Melanesian: articles, prepositions, pronominal suffixes, verb formatives, and such. Even the forms are similar: the personifying article *i*; exclusive 'we', *kami*; suffixed *-ku* 'my'; verb formative prefix *ŋ-*; transitive suffix *-i*; passive prefix *ta-*; causative *pa-*.[11]

In short, according to Ray, the Melanesian languages contain Malayo-Polynesian grammatical pattern and even specific Malayo-Polynesian grammatical elements, but only a minority of Malayo-Polynesian words. This boils down to the thesis that the Negroid Melanesians have accepted more formal structure than vocabulary from the languages of the brown Malayan-Polynesians.

Herewith the usual dictum is reversed that words can be borrowed freely between distinct languages, but grammar with difficulty if at all.

It may be that the time has come to reexamine this dictum. There may be more exceptions than are generally recognized. For instance, in Mexican Sonora the Mayo language is accepting from Spanish not only the idea of a plural but the specific suffix *-es*.[12]

[9] S. H. Ray, A Comparative Study of the Melanesian Island Languages, 1926.
[10] Ray 597–8.
[11] Ray 62–73.
[12] F. Boas, LANG. 5.1–7 (1929); reprinted in Race, Language and Culture 219–25 (1940).

Boas indeed has reopened the problem by challenging the assumption. To be sure, he has raised the point largely as an argument against acceptance of the wider classifications of Sapir, which rest primarily on perception of structural likenesses. However, Boas has never systematically developed evidence for his contention. He has used it chiefly as a methodological counter-argument. Certainly the problem is fundamental enough to warrant systematic investigation in its own right. It is conceivable that the Indo-European languages are exceptional in their tenacity for retaining form while tolerating imported vocabulary. It is also conceivable that the established assumption may be generically sound, but that the Melanesian languages are exceptional; or again that Ray's analysis of the specific Melanesian picture is invalid.

In any event, we do have here a situation in which anthropological factors have direct bearing on a broad problem of linguistic theory. If we did not know the racial and cultural distributions in Oceania, almost any answer might be given to the situation found in the Melanesian languages. It is the anthropological certainties which point up this problem for the linguist.

On the whole, it is evident that of the two disciplines ethnology is the one which is dependent on linguistics. But the relations are complex, and now and then it is the linguist who can profit by what the anthropologist can tender him.

PROTO-ALGONQUIAN *-i·t-* 'FELLOW'

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[This paper outlines the uses, in Central Algonquian, of a peculiar morphological element, intermediate between root and suffix.]

1. In the Algonquian languages there is a class of inflected stems, chiefly nouns, which contain no root and consist entirely of one or more suffixes; we shall call these stems DEPENDENT STEMS. The only morphologic elements, apart from roots, which ever begin a word are the inflectional prefixes: dependent stems occur only in such inflected forms as contain a prefix. The prefixes, four in number, designate persons; with noun stems, they designate a possessor. An example of a dependent noun stem is PA -sit- *foot:* *nesiči *my foot*, *nesitali *my feet*, Fox nesiči, nesitani, and with analogic t for č in the singular, Menomini nese·t, nese·tan, Cree nisit, nisita, Ojibwa nisit, nisitan.[1] The other prefixes are PA ke-, we-, me-, as in Menomini kese·t *thy foot*, ose·t *his foot, its foot, a foot (of an animal)*, mese·t *a (human) foot, a foot (as measure of length)*. The element PA -sit- is a suffix: Fox te·witanasite·ka·pa·wa *he stands with aching feet*, Menomini mama·hkesetɛ·w *he has big feet*, Cree mama·hkisite·w, Ojibwa mama·nkisite·.

Except for the expansible class which we shall discuss below, the number of dependent stems is not very great. In Menomini I have collected about one hundred, and there can hardly be many more; Fox, Cree, and Ojibwa will probably yield much the same number.

2. Among the dependent stems, some begin with the vowel i· and take the prefixes without the usual intervening t (e.g. Menomini a'nap *net*, neta·'napem *my net*). Thus, PA -i·pit- *tooth*, *ni·piči *my tooth*, Fox ni·piči, and, with analogic t for č, Menomini ne·pet, Cree and Ojibwa ni·pit; Menomini ke·pet *thy tooth*, we·pet *his, its tooth, a (non-human) tooth*, me·pet *a (human) tooth*. Some Ojibwa dialects have regularized the prefixation on the basis of the indefinite form with we- (Ojibwa has lost the indefinite me- form): niwi·pit *my tooth*. The element -i·pit- is a suffix, but, as is usual in this type of dependent noun, it differs from the normal form of this suffix, which is -a·pit-, as Menomini sa·ka·petɛw *he is teething*,[2] nɛ'nwapetakat *it is three-pronged*.

[1] PA = Proto-Algonquian. The symbols are used in their ordinary values; e· in Fox is decidedly open (English *hat*), and in Ojibwa somewhat open; for Menomini and Cree this symbol designates a closer vowel (German *See*); ɛ, ɛ· in Menomini are decidedly open. In contrast with the outline in LANG. 1.130 (1925) I now believe that PA had only four vowels a, e, i, o, each in short and long quantity; PA l did not alternate with š; postconsonantal wi, yi still existed. Hence I now set up PA *mi·li *give thou it to him*, Cree miyi, mi·ni and view Fox mi·ši, Menomini me·sen, Ojibwa mi·š as analogic new-formations; similarly, PA *pi·ntwike·wa *he enters a dwelling*, *elenyiwa *man*, *nesitali *my feet* do not demand postulation of a fifth short vowel.

[2] This is the correct form; the rendering with short a in the second syllable (Festschrift Meinhof 400 [Hamburg, 1927]) is an error of mine.

In Fox the third person prefix on the i· nouns apparently is ow-: owi·piči *his tooth.*

3. The sub-class of dependent noun stems with initial i· is small; in Menomini I have collected about twenty. This statement has to be modified, however, in a striking way: there is an element -e·t- (PA -i·t-) which is capable, apparently, of free union with other suffixes, so as to form an indefinite number of nouns. This element, inherited from PA, behaves as a suffix in that it never occurs initially (that is, it occurs only with inflectional prefixes), but further suffixes are added to it exactly as to a root. The meaning is (*my*) *fellow-*(*so-and-so*).

4. This element PA -i·t- *fellow* appears in a few fixed and doubtless inherited terms:

PA -i·tekeHkw-[3] : Menomini ne·tekɛh (plural ne·tekɛ·hkok) *my sister* (*woman speaking*), Ojibwa ni·tikikko·n'.

PA -i·tešya·n- : Menomini ni·tesyan *my brother or sister*, Cree ni·tisa·n.

PA -i·či·škwe·w- : Fox ni·či·škwe·ha *my enemy*, Menomini ni·či·skiw. Here the t is replaced by č before i, i·, y, in an alternation that was apparently universal in PA.

5. A few transparent formations of this sort can be cited from Cree and Ojibwa: Cree ni·čikima·w *my fellow chief*, with -kima·w as suffixal form of okima·w *chief;* Ojibwa ni·čikkiwe·nsi·n' *my male friend* (*man speaking*), with -kkiwe·nsi·n' as suffixal form of akkiwe·nsi·n' *old man.*

6. In Menomini there is an abusive, but serious term we·ta'nɛmon *his fellow cur*, applied to persons. This contains the suffix PA -a'θemw- *dog*, as Menomini keta·ka'nɛm *mottled dog*, Ojibwa katakassim, Cree wa·pastim *white dog*, suffixal form of PA *aθemwa *dog:* Fox anemo·ha, Menomini anɛ·m, Cree atim, Ojibwa anim.

Perhaps on the basis of this term, there seems to have developed in Menomini a privilege of forming abusive words which, as new-formations, partake of a humorous flavor: we·ta·hkasowan *his fellow skinny one*, with suffix -a·hkasi- in noun form, compare pahka·hkasow *he is lean;* as noun *lean person;* ahkuahkasow *he* (*a tree*) *is dried up so far.*

The two others I have recorded are coarse jest-words for *thy fellow male* (*man or boy*): ke·cenakɛ·w, ke·cenɛ·'sewɛw. They are interesting because the suffixes which are here added to -e·t- appear also in ordinary dependent nouns. The former has the suffix PA -θak-, Menomini mahke·nakɛw *he is big at the penis;* also in the dependent noun stem PA -θakay-, Fox mi·nakayi *a* (*human*) *penis*, Cree wi·takay *his penis* or PA -θak-, Menomini we·nak, Ojibwa wi·nak. The latter has the suffix PA -θe'šiw-, Menomini ki·hkenɛ·'sewɛ·hsen *he fell and hurt his testicles;* also in the dependent noun stem PA -θe'šiway-, Menomini nenɛ·'seway *my testicle*, Cree nitisiway, or PA -θe'šiw, Fox nenešiwa, Ojibwa ninišši.

7. The element PA -i·t- forms also a particle PA -i·či which, in the meaning *fellow*, serves as a prior member in composition with nouns. In Menomini, Cree, and Ojibwa these compounds are made with entire freedom, e.g. Menomini

[3] I use H to designate an undetermined prior element in a cluster.

ne·č-enɛ·niw *my fellow man*, Cree ni·či-iyiniw, Ojibwa ni·či-inini. Fox surely says *ni·či-ihkwe·wa *my fellow woman;* this form is not quotable but underlies the derivative cited in §8.

In Menomini there is even the form ne·c-pɛ·ma·teset *my fellow mortal*, where the second member is a participle.

These compounds agree with dependent nouns in not taking the inflectional suffix PA -em-, which appears regularly (with a set of exceptions) on ordinary nouns in possessed form: Menomini a'nap *net*, neta·'napem *my net*, keta·'-napemenaw *our (inclusive) net*, ota·'napemowawan *their net*. Thus, in Menomini ne·č-apɛ·hni·hsɛh *my fellow boy*, ke·č-apɛ·hni·hsenaw *our (inclusive) fellow boy*, we·č-apɛ·hni·hsowawan *their fellow boy*. An exception is made in the case of ne·č-enɛ·niw *my fellow man:* when the suffixes for plural possessor are added, -em- appears: ke·č-enɛ·niamenaw *our (inclusive) fellow man*, we·c-enɛ·niamowawan *their fellow man*, like the simple noun: netɛ·nenyam *my husband*, ketɛ·-nenyamenawak *our (inclusive) husbands*, otɛ·nenyamowawan *their husbands*. An entirely irregular form is ke·č-ese·kenaw *one of our (inclusive) kind (a mere ordinary person like ourselves)*; there the final syllable of the stem is dropped, cf. ne·č-ese·kew *one of my kind*; the final member *ese·kew is the noun derivative of the verb ese·kew *he grows, fares, is thus*.

In Ojibwa, similarly, these compounds fail to take -em, at least in the few examples that can be cited at present: ni·či-inini *my fellow man*, ki·ci-ininiwina·-nik *our fellow men*, ki·ci-ininiwiwa· *your (plural) fellow man*.

Unfortunately I can cite no forms with plural possessor from Fox or Cree.

8. Certain regular secondary derivative verbs in Algonquian are made from the theme-form with third person possessor: Fox šo·niya·hi *silver, money*, ošo·niya·hemi *his money*, ošo·niya·hemiwa *he has money;* Menomini su·niyan, osu·niyanem, osu·niyanemew; ehkuah *louse*, otɛ·hkoman *his louse*, otɛ·hkomew *he has lice*; Cree ihkwa, otihkoma, otihkomiw; Ojibwa šo·niya·, ošo·niya·m, ošo·niya·mi.

This is true also of dependent nouns: Fox nekwisa *my son*, okwisiwa *he has a son;* Menomini neki·'s, oki·'sew (netu·ki'sem *I have a son*, wɛ·ki'set *the parent of a son*); Cree nika·wiy *my mother*, oka·wiyiw *he has a mother;* Ojibwa ninkwiss *my son*, ci-okwissima·t *that he have him as a son*.

However, when derivatives of this sort are made from dependent nouns in i·, an o- is prefixed to the w of the third person prefix: Menomini ne·k *my house*, we·k *his house*, owe·kew *he has a house* (neto·we·kem *I have a house*, wɛ·we·ket *the owner of a house*); Cree ni·ki, wi·ki, uwi·kiw; Ojibwa ni·nim *my in-law of opposite sex*, wi·nimo·n *his sister-in-law, her brother-in-law*, owi·nimo *he has a sister-in-law, she has a brother-in-law*. This includes the -i·t- derivatives and compounds: Menomini owe·tekɛ·hkomɛw *she has her as a sister*, owe·tekɛ·h-komaw *a sister, the sister of a woman*, owe·tekɛ·hkohtowak *they are sisters to each other*, ne·č-noha·h *my fellow son-in-law*, we·č-noha·hkan *his fellow son-in-law*, owe·č-noha·hkemaw *the other son-in-law*, owi·tesyanehtowak *they are brother(s) and sister(s)*, Cree owi·tisa·nihtowak; Ojibwa owi·cikkiwe·n'intiwak *they are friends to each other*.

In Fox, to be sure, the prefix of the third person seems always to have this form, cf. §3; of derivatives I can cite only the form owi·č-ihkwe·wiwa *she has (someone as) a fellow woman.*

9. Most secondary derivatives are based upon the mere stem of the noun: Fox wi·kopi *linden bark*, wi·kopihke·wa *he gathers linden bark;* Menomini we·kop, we·kope·hkɛw; Cree wa·skahikan *wooden house*, wa·skahikanihke·w *he builds a house*; Ojibwa wi·kop, wi·kopikke·.

Dependent nouns, however, appear with the third person prefix in all secondary derivation: Fox nesiči *my foot*, *osita·pi *moccasin-lace* (quotable only in possessed form neto·sita·pi *my moccasin-lace*); Menomini nese·t *my foot*, ose·ta·h *axe-handle* (neto·setah *my axe-handle*); Cree niska·t *my leg*, oska·tihka·n *leg of a stove, table, chair;* Ojibwa ninte·' *my heart*, ote·'a·ttik *inner wood of a tree.* Thus, the form of the prefix is the same here as in the derivatives of §8.

The meanings of dependent nouns (parts of the body; a very few intimate possessions, as *dwelling, arrow, pack;* kinship terms) are such that there is little occasion for secondary derivatives other than those of §8; most instances are fixed terms rather than nonce-formations. A very few have the prefix me-: Fox mehkone·weni *a blanket*, cf. Ojibwa nikkona·ss *my blanket.*

The dependent nouns with i· distinguish the two kinds of secondary derivatives; those of §8 take the third person prefix w with an additional o- before it, while those of the type we are now concerned with take only the w of the third person. The forms which I can quote are all fixed terms; they do not belong to any freely used type of secondary derivation.

Menomini ne·k *my house*, we·kew *he dwells* (newe·kem *I dwell*, waye·ket *he who dwells;* contrast owe·kew, §8), we·kewam *house;* Cree ni·ki *my house*, wi·kiw *he dwells;* cf. Ojibwa wi·kiwa·m *house* (mi·kiwa·m in the Algonquin dialect, Cuoq, Lexique de la langue algonquine, Montréal, 1886).

Menomini we·wan *his wife* (archaic ne·w *my wife*), we·wew *he takes or has a wife* (newe·wem *I take a wife*, waye·wet *the married man*); Cree wi·wa *his wife* (archaic ni·wa *my wife*), wi·wiw *he takes a wife.*

Menomini ne·was *my pack*, we·wasew *he carries a pack*, newe·wasem *I carry a pack* (but me·wanɛ·hkatam *he makes a pack of it*).

Menomini ne·nɛ' *a hair of my head*, we·nɛ'sew *he has long hair;* Cree wi·tisiw (isolated, as the noun apparently is lacking).

In Fox, where the possessive prefix of the third person on the dependent nouns with i· is apparently ow-, we expect no difference between the two types of secondary derivatives. Thus, from ni·ki *my house*, we have owi·kiwa *he dwells;* from ni·wa *my wife*, owi·wiwa *he takes a wife*, from *ni·waši (not quotable), owi·wašiwa *he has a pack*, indistinguishable from a derivative of the type in §8 (but also apparently *mi·wašiweni *a pack*, in possessed form nemi·wašiweni *my pack*). Only wi·kiya·pi *wigwam* is a relic of the older habit.

The derivatives given in this section and in §8 are not in general confused with a third type, in which the derivative shares the character of a dependent noun, such as diminutives, Fox nekwise·ha *my little son*, Menomini neki·'se·hsɛh, Ojibwa ninkwisse·nss, Cree nisi·mis, diminutive of nisi·m *my younger brother or sister.* This type need not here concern us.

10. We have spoken in some detail of the rather sparse derivatives of §9 because the element -i·t-, which here interests us, has expanded in this very direction. Not only do the languages agree in this, but even Fox here employs wi·t- (without any o-). It is safe to say that PA wi·t- figures as a root in some such meaning as *along, with* in a number of formations, some of them quite archaic.

Some of the formations are made with suffixes that have no freedom of use, at least in the same shape:

Fox wi·hkome·wa *he invites him to eat*, Cree wi·hkome·w, Ojibwa wi·kkoma·t, archaic in not using the connective PA i between the t of wi·t- and the following k; the alternations in such cases (here, apparently, tk : hk) are not entirely clear.[4]

Fox wi·hpe·wa *he sleeps with someone*, wi·hpe·me·wa *he sleeps with him*, wi·hpe·tamwa *he sleeps with it;* Menomini we·hpɛw, we·hpemɛw, we·hpɛ·htam; Cree wi·hpe·me·w; Ojibwa wi·ppe·, wi·ppe·ma·t, wi·ppe·ntank; without the connective vowel.

Fox wi·hpome·wa *he eats with him*, Menomini we·hpomɛw.

Fox wi·te·me·wa *he accompanies him*, wi·te·tamwa *he accompanies it.*

Menomini wi·či·wɛ·w *he accompanies him*, Cree wi·če·we·w, Ojibwa wi·či·wa·t; compare Fox wi·če·we·wa *he goes along*, intransitive.

Fox wi·to·hkawe·wa *he helps him*, wi·to·hkamwa *he helps it*, Menomini we·to·hkawɛw, we·to·hkam, Ojibwa wi·to·kkawa·t.

Others are made with suffixes that occur also in other formations and are in part freely used. In some instances the primary suffix is one that forms intransitive verbs (as -api- *sit*), but the only quotable formation is a secondary derivative with transitivizing -em.

Fox wi·teke·me·wa *he dances with him* (*wi·teke·wa, not quotable, would be *he joins in the dance*).

Menomini we·čehsemow *he joins in the dance* (wi·čehseminotawɛw *he dances with him*, wi·čehseminotam *he dances with it*).

Fox wi·čite·he·me·wa *he is with him in thought*, Menomini we·četɛhamɛw (Fox *wi·čite·he·wa, Menomini *we·četɛhɛ·w are not quotable; they would mean *he sympathizes*).

Menomini we·hpahtawɛ·mɛ·w *he runs along with him.* The lack of connective PA i is no guarantee of age, for Menomini seems to have maintained the archaic habit before certain prefixes, compare ehpa·htaw *he runs thither*, tahpa·htaw *he runs so long.*

Menomini we·tapemɛ·w *he sits with him* (*especially her, as a symbol of marriage*), Cree wi·tapime·w, Ojibwa wi·tapima·t; compare Fox wi·tapike·wa *he sits with people*, a further derivative which makes very probable the existence of *wi·tapime·wa.

Menomini we·to·hpomɛw *he eats with him*, Cree wi·to·spome·w *he eats from the same dish with him*, Ojibwa wi·to·ppama·t.

Ojibwa wi·tike· *he dwells with someone*, wi·tike·ma·t *he dwells with him, he marries her, is married to her;* compare Fox wi·čike·me·wa with analogic č for t

[4] Michelson, IJAL 8.40 (1933).

(PA *wi·twike·-; Fox lost w and then had anomalous t before i; compare PA *pi·ntwike·wa *he enters a dwelling*, Fox pi·tike·wa, Menomini pi·htikɛw, Cree pi·htoke·w, Ojibwa pi·ntike·, and PA *welwike·wa *he sets up a dwelling*, Menomini oni·kɛ·w, where both Fox ašike·wa and Ojibwa ošike· have analogic š for n).

Fox wi·čiso·me·wa *he is of the same gens with him.*

Fox wi·čihe·wa *he stays with him*, Cree wi·čihe·w *he helps him* (wi·čihowin *the Hudson Bay Company*).

11. The root PA wi·t- appears also in the free formation by which particles are made with PA -i. PA *wi·či appears as a prior member with verbs. Basically these are intransitive, but in some cases only a transitive with -em is quotable in the wi·či compound, whereas the simple verb may not occur with -em. These compounds seem to be freely formed.

Fox wi·či-mahkate·wi·me·wa *he fasts with him*: mahkate·wi·wa *he fasts.*

Fox wi·či-mehtose·neni·me·wa *he is a fellow mortal to him*: mehtose·neniwiwa *he is a mortal man.*

Menomini we·c-asa·'sow *he was enrolled along with the others.*

Cree wi·či-me·tawe·me·w *he plays, gambles with him*: me·tawe·w *he plays, gambles.*

Ojibwa wi·ci-anokki·ma·t *he works along with him*: anokki· *he works.*

CERTAIN PROTO-ALGONQUIAN CONSONANT CLUSTERS

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[Bloomfield has set up the Proto-Algonquian clusters *xk and *xp, using x to represent an undetermined phoneme preceding k and p. This paper proposes to show that *xk consists of two clusters in the parent language, namely *θk and *xk. In addition to establishing the validity of a new Proto-Algonquian cluster, it gives the reflexes for the principal Eastern Algonquian languages and postulates the stages of development.]

The Proto-Algonquian clusters *xk and *xp, established by Bloomfield,[1] may be considered from the point of view of both the Central and the Eastern Algonquian languages.[2] The Northeastern and New England languages (Micmac, Passamaquoddy-Malecite, Penobscot, Abenaki, Massachusetts, Narragansett, and Mohegan-Pequot) agree among themselves in showing that Bloomfield's tentative *xk has two regular reflexes, namely sk and hk. Delaware, spoken to the south of this area, also reveals a double reflex for tentative *xk, with xk corresponding to Penobscot sk, and the interrupted cluster hVk matching Penobscot hk. The consistency of this correspondence of consonant clusters in such a large number of languages and over so wide a geographical area leads to the inescapable conclusion that tentative *xk represents two original clusters in the parent language. On the other hand, *xp has hp as a reflex in all Eastern Algonquian languages except Delaware, in which the slightly altered interrupted cluster hVp occurs. A new statement of the pertinent facts is summarized in the following table:

PA	F	C	M	O	P	Ms.	D	Pw.
*θk	hk	sk	hk	kk	sk	sk	xk	sk
*xk	hk	sk	hk	kk	hk	hk	hVk	sk
*xp	hp	sp	hp	pp	hp	hp	hVp	hp

Powhatan, once spoken in Virginia, is like Cree in having PA *θk and *xk fall together to sk, but agrees with most Algonquian languages in having hp as a reflex of *xp, as opposed to Cree sp.

[1] Leonard Bloomfield, On the Sound-System of Central Algonquian, LANG. 1.130–56 (1925).

[2] The abbreviations used for languages are: PA for Proto-Algonquian, F for Fox, C for Cree, M for Menomini, O for Ojibwa, P for Penobscot, Ab. for Abenaki (dialect closely related to Penobscot), Ps. for Passamaquoddy-Malecite, Ms. for Massachusetts or Natick, D for Delaware (Unami dialect), Dm. for Munsee (dialect of Delaware), Pw. for Powhatan.

For the supporting forms in C, M, and O the writer is indebted to Bloomfield. Fox words are extracted from the texts of William Jones and Truman Michelson. Terms in P, Ab., Ps., D, and Dm. are from the writer's field notes. All are given in phonemic transcription.

The extinct languages, Ms. (from James H. Trumbull) and Pw. (from William Strachey and Captain John Smith) are in the traditional orthography of English, and are therefore only approximations.

About half of the PA reconstructions cited are from the publications of Bloomfield; the remainder have been made by the writer, employing the principles established by Bloomfield.

Proof that P and Ms. *sk* and D *xk* are reflexes of PA **θk* will now be given. Bloomfield[3] has shown that when *t* or *θ* appear before *k* or *p* in some ancient PA compounds of morphologic elements, they are replaced by **xk* and **xp* respectively. He also has demonstrated that **awe* > **o·* before **θ* in PA times.[4] Thus PA **ketankeško·θe* < **ketankeškaweθe* 'I kick thee' (independent mode). Now **-eθ-* is the objective pronominal suffix of the 2d person singular (independent mode, **ke—eθe* 'I ... thee'). In the subordinate modes (e.g. the subjunctive) the suffixes for the transitive form 'he ... thee' are: F *-hke*, C *-sk*, O *-kk*, and P *-ske*. Now with **-eθ-* as the objective pronominal suffix of the 2d person singular, and **-k-*, the subjective pronominal suffix of the 3d person singular (animate and inanimate) in the subordinate modes, the correct suffix for the 'he ... thee' form of the subjunctive mode would be **-eθke*, placing the pronominal suffixed elements in their correct order. Thus we obtain PA **tankeško·θke* < **tankeškaweθke* 'if he kicks thee', its reflexes being F *takeško·hke*, C *tahkisko·sk*, O *tankiško·kk*, and P *tákskaske*. Therefore it can be assumed that F *hk*, C *sk*, O *kk*, and P *sk* are reflexes of **θk*. There are other bits of evidence to support this thesis. For example, F *ši·kawa*, C *si·kawiskwe·w*, P *síkoskʷe*, Ms. *sekousq*, Dm. *ši·ko·xkwe·w*, all meaning 'widow', posit PA **ši·kaweθkwe·wa* and **ši·ko·θkwe·wa*.

I. Examples of **θk*

1. PA **nemeθkawa·wa* 'I find him', F *nemehkawa·wa*, C *nimiskawa·w*, O *nimikkawa·*, P *nəmə́skawa*.

2. PA **walake·θkwa* 'bark', F *anake·hkwa*, C *wayake·sk*, M *wana·kɛ·h*, O *wanake·kk*, *anake·kk*,[5] P *wálakeskʷ*.

3. PA **weθkahtekwi* 'his forehead', C *oskahtik*, O *okkattik*, P *wskátəkʷe*,[6] Ms. *wuskodtuk*; Pw. *muskan* 'forehead'. PA **neθkahtekwi* 'my forehead', C *niskahtik*, O *nikkattik*, P *nəskátəkʷe*.

4. PA **aθko·ka* 'snake', (pl. **aθko·kaki*), P, Ab. *skok* (pl. *skòkak*), Ms. *askook*, D *xko·k*, Dm. *axko·k*.

5. PA **waθkani* 'bone', (pl. **waθkanali*), F *ahkani* (pl. *ahkanani*), C *oskan*, M *ohka·n* (pl. *ohka·nan*), O *okkan*, Shawnee *wʔkani*, Ab. *wskan*, Ps. *skən*, Ms. *wuskon*, D *xkan*, Dm. *waxkan*, Pw. *woskan*.

6. PA **pale·neθkwi* 'five', P *pálenəskʷ*, D *pale·naxk*, Pw. *paranske*. This is probably a derivative of PA **-neθki* 'hand', with the analogical numeral ending **-wi*.

7. PA **ko·θka·we·wa* 'he upsets, tips over in a canoe', F *ko·hka·we·wa*, M *ko·hkawɛw*, P *kóskawe*.

8. PA **kelo·θkiwa* 'he lies, tells a falsehood', M *keno·hkew*, P *kólosko*. O *kinawiški*, Miami *kilahki-*, and C *kiya·skiw* do not correspond and belong to-

[3] Lang. 1.150–1.

[4] Lang. 1.138.

[5] Some dialects of O have lost initial *w*.

[6] P does not quite correspond since it lostan aspirate before *t*.

gether. Apparently C *sk* and O *šk* represent an unknown original cluster which was eliminated in PA times.[7]

9. PA **weθkwani* 'his liver', F *ohkoni*, C *oskon*, M *ohko·n*, O *okkwan*, *okko·n*, P *skʷən* 'liver', *wə́skʷənom*, *wətáskʷənom* 'his liver', D *xkwən* 'liver', *o·xkwə́nəm* 'his liver', Ms. *wusqun*.

10. PA **mo·θken-* 'uncover by hand, produce from place of concealment, display', **mo·θkenamwa* 'he uncovers it', F *mo·hkenamwa* 'he displays it', C *mo·skinam*, M *mo·hkaham* 'he uncovers it by tool', O *mo·kkinam*, P *wəmóskənəmən* 'he takes it out, produces it from concealment'.

11. PA **eθkwe·wa* 'woman', F *ihkwe·wa*, C *iskwe·w*, O *ikkwe·*, Ms. *eshqua*, *squaw*, D *xkwe·w*, Pw. *usqwɑsenis* (dimin.). P has only the compound *nàksk*ʷ*e* 'girl', Ms. *nunksqua*. **eθkwe·ʔθemwa* 'bitch' (parts original, not the compound), C *iskwe·stim*, P *skʷéhsəmohs* (dimin.), Ms. *squashim*, Pw. *usqwausum*. **ši·ko·θkwe·wa* 'widow', P *síkoskʷe*, Ms. *sekousq*, Dm. *ši·ko·xkwe·w*.

12. PA **-a·peθkwi* 'rock, stone', F *pi·wa·pehkwi* 'iron', C *pi·wa·pisk* 'iron', *a·sawa·pisk* 'beyond the rock'; P *pə́nahpəskʷ* (pl. *pə́napskol*), Ms. *pumupsq*, *pumipsk* 'rock'. **wa·pa·peθkwi* 'white rock', C *wa·pa·pisk*, P *wə́pahpəskʷ*.

13. PA **waθkiči* 'on top, on the surface', C *waskič*, P *wskíči*, Ms. *woskeche*, *waskeche*, Pw. *oskeitch*.

14. PA **ameθkwa* 'beaver', F *amehkwa*, C *amisk*, O *amikk*, D *kwənə́mxkw* 'otter' ('long beaver'). **paθameθkwa* 'young beaver', C *patamisk*, Ps. *pə́ləmskʷ*.

15. PA **aθk-* 'watch, lie in ambush', C *askama·we·w* 'he lies in ambush for him', M *ahko·nɛ·hɛ·w* 'he watches', O *akkama·we·* 'he lies in ambush for him', P *askə́hwɑpo* 'he watches' (stem *ask-*).

16. PA **pa·θken-* 'uncover, break open by hand', **pa·θkenamwa* 'he opens, uncovers it', F *pa·hkenamwa*, C *pa·skinam*, M *pa·hkenam*, O *pa·kkinank* 'he opens it by hand (book, oven)', P *wəpáskənəmən*[8] 'he breaks it open by hand', Ms. *poskinum* 'he bares it', Pw. *paskeaw*, *paskasew* 'break open, crack'.

17. PA **maθkwa* 'bear', F *mahkwa*, C *maskwa*, O *makkwa*, Ms. *masq*, D *maxkw*. **na·pe·θkwa* 'male bear' (unoriginal compound), O *na·pe·kk*, P *nàpeskʷ*. **wa·paθkwa* 'white bear', C *wa·pask*, P *wɑpskʷ*.

18. PA **akwaθkwa* 'woodchuck' (**-aθkwa*, 'bear'), M *akuah* 'woodchuck' (pl. *akuahkok*), Ab. *akaskʷ*, Ms. *ogkoshq*. Note the dissimilative loss of *w* in Ab. and Ms. **meʔθakwaθkwa* 'badger' (i.e., 'big woodchuck'), M *meʔnakuah*, O *missakkakkoči·šš*.

19. PA **nexpeθkwani* 'my back', C *nispiskwan*, M *nɛhpɛ·hkwan*, O *nippikkwan*, P *npə̀skʷan*, Ms. *nuppisk*, Narragansett *nuppusquan*.

20. PA **neneθki* 'my arm, hand', F *nenehki*, C *okihčinisk* 'his right arm', O *ninikk* 'my arm', Mahican *unisk* 'his hand', D *nnaxk* 'my hand' (see number 6 above).

[7] There are other evidences of such a cluster. For example, C *kiya·sk* 'gull', O *kaya·šk*, Miami *kiyahkwa*, P *kahlʷ* (dimin. *kàhlʷis*), Pw. *coiahqwus* (dimin.), suggest that C *sk*, O *šk*, and the *hk* of Miami, P and Pw. belong together, although the forms do not correspond.

Another possible unknown cluster is evidenced by F *e·mehkwa·ni* 'spoon', C *e·mihkwa·n*, M *e·miskwan*, O *e·mikkwa·n*, P *èmkʷan*, and Pw. *hamkone*.

[8] PA **a·* > P *a* before **θk* and **xk*, whether they are followed by **w* or not.

II. Examples of **xk*

1. PA **mexkwamya* 'ice', F *mehkwami*, C *miskwami*, M *mɛhkuam* (pl. *-yak*), O *mikkwam* (pl. *-i·k*), P *pkʷàmi* (pl. *pkʷàməyak*) (< pre-Abenaki **mkʷami* < **məhkwami*), Dm. *móhkwami*.

2. PA **aθoxkye·wa* 'he works, does, performs', F *anohkye·wa*, C *atoske·w*, M *anohki·w* (loan from O?), O *anokki·*, P *álohke*, Ms. *anakausu*.

3. PA **ana·xkya·ni* 'mat, rug', F *ana·hkani*, C *ana·ska·n*, M *ana·hkyan*, O *ana·kkan*, P *ánehkan*,[9] Pw. *anansecoon* [*ana·ska·n*?].

4. PA **neta·hpixkani* (?) 'my jaw, chin', F *neta·pihkani*, C *nita·piskan*, M *neta·hpɛhkan*, P *nətáppihkan*. The forms do not exactly match, but the cluster **xk* is certain.

5. PA **-a·xkw-* 'wood, tree', **a·kema·xkwa* 'white ash tree', C *a·kima·sk*, O *a·kima·kk*, P *ákəmahkʷ*. Ms. has *wuttuhq* 'bough, wood'. **pa·ka·xkwe·wa* 'he bumps into a tree', F *pa·ka·hkwe·wa*, P *pákahkʷe*.

6. PA **-axkamekwe* 'ground'; M *aʔna·hkamek* 'ground moss', O *assakkamik*, P *aləssáhkamikʷ*. **waθkitaxkamekwe* 'the world, the top of the ground expanse', C *waskitaskamik*, P *wskítkamikʷ* (< pre-Abenaki **wskitahkamikʷ*).

7. PA **wexka·či* 'his leg' (pl. **wexka·tali*), F *ohka·či*, C *oska·t*, M *ohka·t*, O *okka·t*, P *wkat* (< pre-Abenaki **wəhkat*), Ms. *wuhkont*, Pw. *meskott* 'leg'. **nexka·či* 'my leg' (pl. **nexka·tali*), F *nehka·či* (pl. *nehka·tani*), C *niska·t*, O *nikka·t*, P *nkat*, Ms. *nuhkont*, D *nhíka·t*.

8. PA **axkyi* 'land' (pl. **axkyali*), F *ahki*, C *aski*, O *akki*, P *kki*[10] (pl. *kkàyal*; *nətahki* 'my land'), Ms. *ohke*, D *hákki* (*ntá·ki* 'my land').

9. PA **mexkena·hkwa* 'snapping turtle', C *miskina·hk*, M *mɛhkɛ·na·h*, O *mikkina·kk*, P *ámihkənahkʷ*,[11] Ab. *mihkənahkʷ*.

10. PA **maxkesini* 'shoe, moccasin', C *maskisin*, O *makkisin*, P *màksən* (< pre-Abenaki **mahkəsən*) (pl. *máksənak*), Ms. *mokis*. P *álənaksən* 'common footgear' and D *lənháksən* may be considered here.

III. Examples of **xp*

1. PA **oxpenya* 'ground nut, potato', F *ahpenya*, M *ohpɛ·n* (pl. *ohpɛ·nyak*), O *oppin*, P *ppən*, 'ground nut, testicle' (pl. *ppànak*; *nətahpən* 'my testicle, ground nut'), D *hópəni·s* 'potato' (dimin.), Pw. *ouhpunnawk* 'ground nuts'.

2. PA **oxpwa·kana* 'pipe', F *ahpwa·kana*, C *ospwa·kan*, M *ohpuakan*, O *oppwa·kan*, Ms. *uhpuoonk*, D *hopó·kkan*, Pw. *uhpoocan*.

3. PA **nexpetoni* 'my arm', C *nispiton*, Ms. *nuhpit*. The P form *npàtin* 'my hand' does not match, although it agrees with Narragansett *nuppittene* 'my arm'.

4. PA **nexpike·kani* 'my rib', C *nispike·kan*, M *nɛhpe·kɛ·kan*, O *nippike·kan*, P *ppìke* 'rib' (*nətáhpike* 'my rib').

[9] PA **a·* > P *e* before **xky*. Although I have no other example of this, it can be accepted tentatively in view of the similar changes of **a·* before **θk* and **xk* in P.

[10] In P morphophonemics, initial *hk* becomes a long consonant or geminate, as do all stops.

[11] P initial *a* in this word is anomalous, and perhaps may be due to the accent in P.

5. PA **mexponwi* 'it snows', F *mehponwi*, C *mispon*, Ms. *muhpo*, *muhpowi*.
6. PA **nexpeθkwani* 'my back' (see §1.19).

The following observations and conclusions are reached on the basis of the evidence given in this paper:

A. A cognate in any one Atlantic coast language, other than Powhatan, with the Central Algonquian languages is decisive for establishing the PA clusters **θk* and **xk* in any lexeme.

B. Taking historical developments in their probable chronological order, the earliest phonemic shift was that of PA **xk* > *hk* in all the Eastern-Central languages, which were at that time in close geographical contiguity and experiencing the same sound changes. At a much later date and after separation had occurred, *hk* became a geminate stop in at least some dialects of Ojibwa, an interrupted cluster *hVk* (and sometimes a geminate stop) in Delaware, and a geminate stop in word-initial position in Penobscot.

Cree and Powhatan, however, were subject to different linguistic influences, and both shifted **xk* to *sk*. This fact is of great importance for an understanding of the early history of the Algonquian peoples. Cree, spoken in the boreal zone of North America from the St. Lawrence to the Rocky Mountains, is at one margin of the Algonquian speech area, while Powhatan, in the extreme Southeast, is at the other. No wave theory of sound developments can account for the linguistic traits of Powhatan; instead, an early prehistoric migration is indicated. It seems that the Powhatan group had moved southward along the Atlantic coast from the St. Lawrence region when the remainder of the Algonquian peoples all resided west of the Appalachians.

Before the Powhatan-Cree separation occurred, both languages underwent a simultaneous shift of PA **θ* to *t*. Thus PA **aθemwa* 'dog', F *anemwa*, C *atim*, Pw. *attemous* (dimin.); PA **aθo·nsi* (?) 'arrow' (originally a diminutive of PA **aθwi* 'arrow' > M *ani·h*, O *anwi*), C *atos*, D *alo·ns*, Pw. *attonce*, P *àlohs* 'penis'[12] (dimin.); **ni·maθawa* (?) 'man', Mahican *ní·manaw*, Pw. *nimatewh*, *nematough*; PA **aθa·nkwa* 'star', F *ana·kwa*, C *ata·hk*, O *ana·nk*, D *alánkw*, Pw. *attaanq-wassuwk* (pl. dimin.). In Cree PA **nk* > *hk*, **ns* > *s*, and **xp* > *sp*, subsequent to the separation of Powhatan, which maintained the original *n*-stop clusters, like Ojibwa and Delaware. In this manner Cree and Powhatan enable us to set up a time perspective in Algonquian sound changes.

At a later date the Powhatan peoples were absorbed or driven to the extreme periphery of the Algonquian speech area by waves of other invading groups (first the Abenaki-Penobscot, then the Massachusetts peoples, and finally the Delaware) who moved eastward. However, they left slight traces of linguistic influence in several Eastern languages as evidence of their former occupancy.

C. In the second developmental stage, PA **xp* > *hp* in all Eastern-Central languages except Cree, which shifted to *sp*.

[12] According to early Jesuit dictionaries this word meant 'arrow' in several P dialects, but this meaning has been lost in modern P.

D. In the third stage several sound changes occurred. PA *θk > hk in Fox, Shawnee, Menomini, Ojibwa, Miami-Illinois, etc.; xk in Delaware; and sk in Cree, Micmac, Powhatan, Abenaki-Penobscot, Massachusetts, etc., each shift being an independent movement and acting as a wave effect. It seems possible that there were two separate shifts of *θk > sk, a very early one which influenced Cree and Powhatan, and one at a later date which was active in the New England area.

PROTO-ALGONQUIAN *çk: FURTHER EXAMPLES

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[Up to the present this consonantal group has appeared to be rare; hence additional examples will be of interest to Algonquianists.]

Since only three examples of Proto-Algonquian *çk have hitherto been pointed out[1] (viz. *meçkw- 'red', Bloomfield, LANG. 1.152; *nōçkwā- 'lick', Michelson, IJAL 8.41; and *cōçkwi- 'slip', Michelson, IJAL 10.81, his suggestion that the Cree form is borrowed from Ojibwa being beyond any but a scrupulous doubt), it will be of interest to Algonquianists to have further examples reported. I present here some series of correspondences that appear to postulate PA *çk. It may be remarked that PA *çk is distinguished from PA *ck in this, that the latter persists generally (varying to *sk* in actual sound and in transcription in some languages), while the former appears as *ck* in Fox, Sauk, and Kickapoo (varying to *sk*), predominantly as *sk* rather than *ck* in Ojibwa and Algonkin (which I think significant), but as *hk* in Cree and Menominee. Since in Cree and Menominee *hk* is also the regular representative of PA *nk, some interesting cases of homonymy arise, in which the meaning must decide the etymol-

[1] The following abbreviations are used in this paper:

Languages: A = Algonkin, C = Cree, D = Delaware, F = Fox, M = Menominee, Mo. = Montagnais, O = Ojibwa, S = Shawnee; other names are written out in full.

Publications: (1) Texts: JFT = Jones' Fox Texts, cited by page and line, and so in all references to published texts in Algonquian languages, except as mentioned below; JOT = Jones' Ojibwa Texts, cited by volume, page, and line; BMT = Leonard Bloomfield's Menominee Texts, cited by page and line; BPCT = Leonard Bloomfield's Plains Cree Texts, cited by page and paragraph; BSGCT = Leonard Bloomfield's Sweet Grass Cree Texts, cited by page only.

(2) Periodicals: IJAL = International Journal of American Linguistics, cited by volume and page (a or b = first or second column, both here and elsewhere); PAES = Publications of the American Ethnological Society, cited by volume, page, and line; BAE = Bureau of American Ethnology (a following B = Bulletin, with its number, page, and line; a following AR = Annual Report, with its number, page, and line, but only number and page when the reference is to the list of Fox stems in AR40); IHS = Indiana Historical Society, and a following PRS = Prehistory Research Series, with volume, number, and page.

(3) Dictionaries; BOED (or Baraga) = Baraga's Otchipwe-English Dictionary[2]; BEOD = Baraga's English-Otchipwe Dictionary[2]; Cuoq = Cuoq's Lexique de la langue algonquine (sometimes the page and column are cited); Lemoine = Lemoine's Dictionnaire français-algonquin; Brinton = Brinton's Lenâpe-English Dictionary; Lacombe = Lacombe's Dictionnaire de la langue des Cris; Watkins = Watkins' Dictionary of the Cree Language; Faries = Faries' Dictionary of the Cree Language (a revision of Watkins); when Montagnais is mentioned, Lemoine = Lemoine's Dictionnaire français-montagnais.

As to punctuation, single quotes are used to indicate what I take to be the real meaning of an Algonquian form cited, but I use double quotes with a citation of an author's ipsissima verba when I do not accept them as giving the exact sense.

The rough breathing ' is used in F and O forms both before stops and between vowels, = *h*. The glottal stop is written ' in my transcription; and · in Jones' transcription of O means either ' or *h*.

ogy. The correspondences in the other languages of the Algonquian family have not been completely worked out as yet, but forms from some languages outside the Central-Algonquian group are cited here in some cases when they were available.

1. PA *-leçkwa* 'gland (tonsil)': A *ni-nickwak* 'my glands', Cuoq 270; Lemoine s.v. 'glande'; O *ni-nishkwag* 'id.', BOED 299, *u-nickwa'* 'his glands', JOT 2.666.16; C *o-yikwa* 'his glands', Lacombe 524a, *iyikwak* 'glandes à la gorge', Lacombe 357b, *ne-yekwuk* 'my tonsils', Watkins, *o-nikwu* 'his neck-glands', Faries 86 (this is Swampy Cree, though not so marked, cf. ix), *weyehkwuk* 'tonsils', Faries (his rough breathing is here transcribed with *h*). Perhaps D *me-lichgawan* 'pillow, cushion', is cognate, as if 'rounded, swelling' (D *ch* = *s* or *c* [*ch*]).

2. PA **neçki-* 'angry, ill-treat, loathe, insult': F *necki-naw-* 'loathe', *necki-nawä-h-* 'make angry', *necki-m-* 'scold', BAE B40.784, AR40.644, etc.; O *nicki-·-* 'make angry', JOT 1.68.6, *nishki-* 'id.', Baraga 301b (both of these = *nicki-h-*), *nicki-m-* 'make angry by words', JOT 1.196.17, = *nishki-m-*, BOED 301b, *nishk-eni-m-* 'be angry with someone', BOED 301b; A *nicki-h-* 'fâcher', Cuoq 270b, Lemoine s.v. 'fâcher', *nicki-m-* 'fâcher par paroles', Lemoine ibid.; D *nisk-ele-nd-am* 'he loathes it', Brinton; C *nikk-a-m-* 'il fait des nasardes à qq', Lacombe 174 s.v. 'nasarde'—not found in Watkins nor in Faries; M *nehkē-h-* 'make angry', BMT 392.40, *nehkē-'taw-* 'offend', BMT 6.32. The Cree and Delaware forms establish the initial consonant as PA **n*.

3. PA **wēçkw-aiyi* 'bladder, pouch, swelling': O *wīskwai*, JOT 1.364.9, *wiskwi*, BEOD 3 (probably due to the editor; not listed in either dictionary); C *wikkwey*, BEOD 3, *wikkway*, Lacombe 650b, *wehkwī*, Faries, *wīhkwāhk* (loc.), BPCT 278.6; M *wīhkōsan* (dim. pl.) 'crops (of geese)', BMT 432.16, *u-wīh* 'his bladder', BMT 484.3; Mo. *uīkui* 'vessie', Lemoine.

Since the initial element **wē-* appears in the names of many parts of the body, it is likely that **-eçkwi-* (or perhaps **-açkwi-* or **-çkwi-*) is a separate morphological element, and in fact it appears in many other combinations with the apparent meaning 'apart, aside, diverge'. Compare F *upi-ckw-aiyi* 'bladder', JFT 98.1, = **umpi-çkw-aiyi; upi-ckw-ätcä-wa* 'he is big around the waist', Jones' Fox Notes, BAE (lege *-etcä-*), *anemih-upi-ckwa-ätcä-* 'have the abdomen increasing in size', BAE AR40.316.28 (lege *-etcä-*); A *abiskwe* 'blister', Lemoine s.v. 'ampoule', *abickebig* 'ampoule', Cuoq; D *wapiechquey*, *wochpiechquey* 'bladder', Brinton. The first component is not identical in these various forms, and in some of them is quite unclear.

4. PA **peçkwi-*, **āpiçkwi-* 'loosen, detach, separate, untie, release, set free': F *āpickwi-*; O *ābickwi-*, JOT, *ābisko-* BOED; A *ābisko-* Cuoq, Lemoine; C *āpikkuw*, *pikku-hu-w* 'he frees himself', Lacombe, *apihkoonāo* 'id.', Watkins, *apihkonāo* Faries, *āpihkwaniw* 'he untied himself', BPCT 152.12, *pihku-hō-w*, 'he freed himself', BPCT 290.135; M *pehkō-* 'untie', BMT 90.1.

5. PA **peçk-alä-* (***peçkwi-* + **-alä-*) 'fire blazes up': **l* is practically certain from Faries *osaw-uhkw-uyāo* 'it has a yellow flame', Miami *päkw-alä-ki* 'the fire blazes', S *pk-ale* 'it blazes' (the two latter from Voegelin IHS.PRS 1.3.82), and perhaps from D *low-ule-n* 'it burns in a flame', Brinton. Naturally, in

Faries Swampy Cree forms show *-unā-*, and Plains Cree forms *-uyā-*, though the forms are not always properly marked. F *peckunä-* 'burn'; O *piskanä-* 'fire blazes up', JOT 1.176.20, *biskane-*, Baraga, *piskw-ā·kunä-* 'fire blazes high', JOT 1.238.15, *piskakone*, Baraga; A *piskane* 'il flambe', Cuoq, Lemoine; M *pīhkine* 'catch fire', BMT 500.15.

Cree forms without **-alä-* are ambiguous, since Cree *pihk(w)-* can also regularly (as far as we know) represent PA **penkwi-* 'ashes, powder': cf. *pikkaswew, -suw, -ttew* 'reduce to ashes', Lacombe 554, *pehkusoo, pehkootāo*, Watkins, *pehkotāo, pihkotāo* 'ashes', Faries; O *pingwi-* 'ashes, fine white sand', Baraga; A *pingwi-* 'dust, ashes', Cuoq, Lemoine; F *pegwä-* 'ashes', JFT 198.1, *pegu-* (in compounds). Only the precise meaning or the mode of combination with other stems can determine whether **penkwi-* or **peçkwi-* is involved.

6. PA **peçki-* 'bend, fold, roll': F *pecki-gwā-* 'roll and sew', JFT 222.20; O *piski-* 'bend', JOT 1.150.9, *piski-* 'bend, fold', Baraga; A *piski-* 'plier', Cuoq, Lemoine; C *pikki-* 'plier', Lacombe, *pihki-* 'fold, bend', Watkins, Faries; cf. D *peechgaugatase* 'joint or bend of the leg', Brinton. I have not found the Menominee form.

7. PA **tōçk-* 'open slightly, peep (relating to sight)', **tōçk-āpi-* 'look with eyes partly closed, squint, peep': F *tōck-īgwä-* 'peep', JFT 134.7.9; O *tōsk-ābi-* 'peep', JOT 1.104.7, *tōsk-āb-* 'look with scarcely opened eyes, aim at', BOED; A *tōsk-āb, i* 'fermer un oeil pour mieux voir, mirer, viser', Cuoq, Lemoine; C *tōhk-āpi-* 'have the eyes barely open (because stung by bees)', BSGCT 303. It is only the meaning of the Cree form that decides in favor of **tōçk-āpi-*, for PA **tōnk-āpi-* 'open the eyes wide' also becomes *tōhk-āpi-* in Cree, and many passages are quite ambiguous.

8. PA **nemeçk-a-m-* 'make an insulting gesture to some one's face': O *nimick-a-m-* "sign indifferently to" (a euphemism!), JOT 1.88.16, *nimiskama, -ndan, -ndi-* "insult by certain signs with the hand" (an inexact statement), BOED; A *nimisk-a-m-, -nd-* 'insulter, pousser des nasardes', Cuoq, Lemoine (s.v. 'insulter'); C *nimikka-mew*, Lacombe (s.v. 'insulter'); not in Watkins nor in Faries.

There are other forms that will bear comparison with those here cited, e.g. C *mikk-a-mew* 'il l'insulte, lui donne des nasardes', Lacombe 456, of which the above seems to be a compound; cf. F *mecki-* 'spread out'—the point being that the insulting gesture in question consists in extending the closed fist toward another's face and then 'opening, spreading' the hand. Note the parallelism between C *mikkamew* 'insult' : F *mecki-* 'spread' on the one hand, and C *nikkamew* 'insult' : F *necki-* 'spread' on the other (cf. 2 above).

9. PA **eçkā'tä-* 'it dries up, water lowers, tide ebbs': O *iska'tä-*, JOT 1.234.10, 260.17, *iskate* BOED; A *iskate*, Cuoq, Lemoine; F *ackā'tä-*, JFT 240.21, with variant initial vowel; M *ihkā'te-*, BMT 158.23; C *ikkastew*, Lacombe, *ikustāo, ithkustāo*, Watkins, *ihkustāo*, Faries, and for the first element cf. *ähki-payiw* 'water recedes', BSGCT 13.6, *ikki-payiw*, Lacombe, *ihke-puyew*, Faries; Mo. *akashte-pilu* 'it dries up', *ekaste-ts* 'ebb-tide', Lemoine.

10. PA **mōçki-* 'be uncovered indecently': in several of the languages this stem

has been confused with other stems, and so it is useful to compare and distinguish three different stems, namely:

(a) **mōçki-* 'be uncovered indecently',

(b) **mōcki-* 'emerge, come to the surface, float; fill to the top, overflow',

(c) **mōxki-* 'appear, come into view, rise (e.g. the sun)'.

All three stems are not yet reported from all the Central Algonquian languages, but the following table shows the forms known to me at present; it is hoped that others may be added later, so that the correctness of the tabulation may be tested.

	O	A	F	C	M
(a)		*moski-* *mocki-*		*mokki-tji*	
(b)	*mōcki-* *mōshki-*	*mocki-*	*mōcki-*	*moski-*	*mūsk-ami-*
(c)	*mō'ki-*	*moki-*	*mō'ki-*	*moski-tjiwan-ipek*	*mōhk-aham*

In Ojibwa, (a) should appear as *mōski-*, but I have not found it in JOT nor in Baraga; (b) *mōcki-* is found in *mōck-aham* 'overflows', *mōckina-h-*, *-htō-* 'fill up (v.t.)', *mōckinä-dä-* 'be full, crowded, etc.', in JOT and in corresponding forms with *mōshk-* in Baraga; (c) appears as *mō'ki-* in compounds in JOT, and as *môki-* in Baraga, e.g. *môkaam* '(sun) rises'.

For Algonkin, (a) see Cuoq 241, *moski-* 'découvert indécemment', and Lemoine s.vv. 'découvrir, dénuder' (he gives both *mocki-* and *moski-*, but the compounds have mostly *moski-*); (b) see Cuoq 237, *mock-* 'emerge, rise above the surface', and Lemoine s.v. 'émerger', *môck-* in compounds = 'come out of water, rise above water'; (c) see Cuoq 238, *moki-*, *mokibi-* 'sortir de l'eau', and Lemoine s.v. 'sortir', also 'soleil'—*mokaam* '(sun) rises'.

In Fox, (a) should appear as *mōcki-*, but I have not found this form; (b) *mōcki-* is frequent, especially in the sense of 'fill up to the top', both in JFT and in Michelson's publications for the BAE: (c) *mō'ki-* occurs frequently in compounds, including *mō'kaham-* '(sun) rises'.

In Cree, (a) appears in *mokki-tji-w* 'il est découvert indécemment', Lacombe s.v. 'découvert', *mokitjiw*, Lacombe s.v. 'nu', *mōhkichēw* 'he exposes (i.e. indecently)', sic! Faries; (b) appears in *mosk-ipe-w* 'il surnage', Lacombe 470b, *mooskipāo* 'it overflows', Faries, and other compounds; (c) appears as *mōski-*, e.g. in *moski-tjiwan-ipek* 'spring, fountain', Lacombe, *moskichiwunipāk*, Faries.

In Menominee, (a) should appear as *mōhki-*, but I have not yet found the form; (b) appears as *mōski-* in *mūsk-ami-* "bob up" = 'come to the surface out of the water', BMT 284.22, 286.41, and in other compounds; (c) appears in *mōhkaham* '(sun) rises, comes into view', BMT 40.13.18.

It is plain that in Cree (b) and (c) coincide in *mōski-*; in O-A-F (a) and (b) coincide in *mōcki-* except insofar as (a) is represented by *mōski-* (v. infra); in M coincidence of (a) and (b) in the form *mōhki-* is to be expected.

The usual spelling for (a) is *mōski-* in Cuoq, Lemoine and Baraga (but in Cree

ck is generally written *sk* by all the authorities); furthermore, I have verified this pronunciation by interrogating an old Ojibwa from Odanah, Wis., aged eighty-one years, and various informants at Lake Simon and at Lake Sarre (Abitibi band), P. Q., Canada, where Algonkin is supposed to be spoken (but actually without the nasal-plus-stop combinations that are characteristic of Ojibwa and the printed Algonkin), and all my informants uniformly gave *sk* as the pronunciation, and denied that *ck* was correct. It might be better to set up PA **sk* instead of **çk*, since the pronunciation seems to be so sharply distinguished from that of *ck;* moreover, in view of the general stability of PA **s* throughout the family, the absence of combinations of **s* plus consonant seems strange.

11. It is with some misgivings that I propose the following case, which may belong with 10, and may even require a revision of the treatment of that case; but, in spite of the questions involved, it is better to propose it in order to invite suggestions.

PA **mōçk-ahōsiwa* 'bittern; heron': A *mockaosi* 'butor, sorte de héron', Cuoq, *mockahosi* 'butor', *moskahosi* 'héron', Lemoine; O *moshkaossi* 'bittern', Baraga (not in JOT); C *mokkahasiw, -ok* 'héron', Lacombe 164, *mokâsiw, -ok* 'butor, héron', Lacombe 469 *moohkuhoohsew* (lege *moohkuhoo'sew*, the accent being occasionally confused with the aspirate in the printing of Faries) 'bittern', Faries, *mise-moohkuhoosew* 'heron', Faries, also *mohkuhosew* 'a bittern, or a heron', Faries 333. Fox *wīgam-ōsiwa* 'bittern' seems to have the same terminal portion, and all the forms point to a contraction of **-ahawesiwa* or **-ahahw-esiwa*, where **-ahahw-* suggests the meaning 'flood', and recalls the episode of JFT 360, where the bittern saves Wīsahkäha's life by "sucking up the flood". Some popular etymologizing may be involved.

12. PA **kāçk-yäwakwi* 'dried, smoked, meat': O *gaskiwag*, BEOD s.v. 'meat', no pl. given (other compounds show *gāski-* 'dry'); C *kâkkewok, -wa*, Lacombe 360b, *kâkkiwok*, Baraga, loc. cit., but *-i-* reflects the Algonkin or the Menominee form, and *-kk-* (= *-hk-*) can only be Menominee, not Algonkin (it may be that Bishop Baraga was in contact with the Menominee, and that this form really is the Menominee form, which otherwise is unknown to me), *kahkāwuk*, Faries; A does not show the exact compound as far as I know, but both Cuoq and Lemoine give *kask-* (not *kack-*!) 'sécher, dessécher', and both give *-iwak-* 'chair, muscle'; Fox does not show the precise compound either, as far as I have noted, but cf. *kācketäwi* 'it (dried meat) is cooked', Jones' Fox Notes at BAE, for the first stem, and *-yäwag-* 'muscle' in the compound *cīcīk-yäwag-en-* 'rub down some one's muscles', BAE AR40.236.34, for the latter portion of the compound. Fox *kā'ki-* 'dry' is a real difficulty; in Jones' texts and notes it can be a misreading of longhand *kācki-* which is certain for 'dry', but Michelson gives the form *kā'ki-* 'dry' as an authentic stem, BAE AR40.630, and it occurs frequently in his texts; besides I know from personal conversation that he felt this form to be a difficulty in the way of a PA **kāçk-*; Algonkin *kakat-* 'dry', Cuoq, may support Fox *kā'ki-;* but the Ojibwa and Cree forms suffice, even without Menominee corroboration (but cf. Baraga's supposed Cree form above). The Cree form is amply corroborated by BPCT 166.15, 180.111, 302.21, etc.

13. PA **paçkw-āk-en-wi* 'tanned hide, leather': O *packwägin*, JOT 2.176.11, 432.8–9, 440.1, 740.18, *pashkwegin*, BOED; A *packwegin*, Cuoq, Lemoine s.v. 'peau', but both give also *pakīgin*, which no doubt is *pahkīgin*, showing contamination with some other language; *pa'kīgin* is the form used at Lake Simon, P. Q., where the language is supposed to be Algonkin but differs notably from that recorded by Cuoq and Lemoine, which is avowedly Nipissing (and therefore Ojibwa?), in not having the nasal-plus-stop combinations, while at La Sarre, P. Q., the Lake Abitibi band use *packwēgin* (no nasal-plus-stop combinations here, either), and an informant from Maniwaki, where Nipissings from Lake of Two Mountains have a reservation, gave *pa'kēgin* as the Maniwaki form (all these western Quebec forms from my own field-notes, 1937–9); C *pakkegin, wa*, Lacombe 528b, 87b, 216a, *pukākin*, Faries, *puhkākin*, Watkins, *pahkāginwah*, BPCT 160.3. The word is not yet reported from Menominee and Fox; the former should have *pahkīgin* (information kindly furnished by Dr. Bloomfield) and the latter *packwägenwi*. The mixture of forms is no doubt due to travel from place to place incidental to the fur trade, and to the failure of European traders to learn the various dialects perfectly enough to distinguish the local variants. Faries has a note (s.v. 'buckskin') that *pukākin* is English 'buck' plus Cree *-ākin*, which might be plausible for the Cree form, but would not explain O-A *packwegin*.

14. PA **-htōçkwani* 'elbow': A *ni-toskwan* 'my elbow', Cuoq 206, Lemoine 144b; F *-tōckwani*, Jones' Fox Notes, BAE; O *nin-doskwan*, BEOD, second *n* by assimilation, *-tōskwan*, JOT 1.446.12; M *ne-htuhkwanan* 'my elbows', BMT 14.26, the variation *u* : *ō* being non-phonemic. The Cree form is out of line, *n'toskwan*, Lacombe 80b, *ne-toskwun*, Faries, apparently borrowed from or contaminated with O or A. M *-ht-* is not supported by the other forms, but a careful recheck of Fox, etc., might verify *-ht-*; in A the aspirated consonants are difficult to catch, judging by my experience in western Quebec, as all I heard in such cases was a weak glottal stop.

15. PA **kelaweçk-* 'be a liar' (perhaps a compound of **kelaw-* 'talk, speak' and **eçkwi-* 'aside, apart, differently', cf. 3 above): O *ginawishk-, gaginawishk-*, BOED, *kagīnawick-*, JOT 1.174.16 (only occurrence noted, lege *-gin-*); A *kinawick-*, Cuoq, Lemoine, *kakinawick-*, Lemoine; not yet found in Fox; Penobscot (contracted) *Glusk-abe*, 'The Deceiver', Passamaquoddy, Malecite, Micmac (contracted) *Glusk-ap*, Speck IJAL 1.187, *Glusk-abul* (obviative sg.) 'id.', Prince PAES 10.26.7, 22.6; M *kinōhki-sīhkit* 'he is a liar', contracted from *kinawehki* + *cehki-* 'lie extended' (cf. English 'lie', a sort of polyglot pun?), BMT 22.6, *kinōhki-m-* 'lie', BMT 180.29; Cree does not agree with M as expected, and its form can reasonly be attributed to borrowing from or contamination with a neighboring language or dialect that had *-sk-, -ck-: kiyāskiw*, Lacombe 192, 419, *kiyaskew*, Faries, both showing contraction of *-awe-* to *-ā-*. The Menominee form seems to justify PA **çk*. Cree has another name for the culture-hero, *kayāskōtsīt*, BPCT 280.24, translated 'Born-of-Old', but apparently the meaning is 'he of the scraped buttocks', referring to a well-known episode in the story; the analogy of this name would also explain *kiyāskiw*, at least insofar as it applies to 'The Deceiver'.

16. The words for 'bloodsucker' and for 'snail', or perhaps for 'sucking-animal', show two forms which seem to contain PA **çk*, but are mostly preceded by a varying element; in the hope that additional forms may be found, I put down such as I have. PA **—açkwaya, *—açkwātcimä-:* O *sag-ackwātcimä, g*, 'leech', JOT 2.166.5–6, *sag-askwadjime, g* 'leech', BOED; A *sak-askwadjime* 'sangsue', Cuoq, Lemoine, *otak-askwadjime* 'id.', Lemoine; C *ak-akkway, ak* 'sangsue', Lacombe 246b, 281b, *ak-akkwātjimin, ak* 'colimacon', Lacombe 281b, *unuk-ahkī* 'snail', Faries. The M form *mehkuaskatayäwak* 'leeches', BMT 450.28, 29, is a different word, 'red-belly', from PA **meçkw-ackatä-* with a final that is not clear. A *otak-* looks like a borrowing from a *t*-dialect of Cree, Faries' *unuk-* being the same element as found in an *n*-dialect. Abnaki *pab-askw* 'leech, bloodsucker', Laurent 39, seems to belong here, but has a different initial part; Micmac *uskoo* 'id.', Rand, seems to be **açkwaya* without any prefix (final syllable lost, of course). Mo. *akakui, akakuatshimeu* 'sangsue', Lemoine, agree pretty well with Lacombe's Cree forms above, if the second *k* = *hk*, as Lemoine's orthography seems to imply.

NOUN INCORPORATION IN THE MUSKOGEAN LANGUAGES

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[Noun incorporation was formerly often thought to be characteristic of American Indian languages as a whole. While it is now definitely known that the process is not pan-American, its complete area of distribution (especially as a non-functional survival) cannot yet be plotted. For this reason it is of considerable interest that the process can be demonstrated to exist as a survival in the Muskogean languages, particularly since its occurrence in these languages has not previously been reported.]

1. The Muskogean family of languages[1] was formerly spoken throughout most of the territory now comprising the states of Mississippi, Alabama, and Georgia, together with adjoining sections of Tennessee and Florida.[2] For the most part the tribes speaking these languages have now been removed or driven away from their original homes, and some of them have become extinct. The extant languages are Choctaw, Chickasaw, Muskogee (or Creek), Seminole, Alabama, Koasati, Hitchiti, and Mikasuki. The first four of these are now spoken in eastern Oklahoma within the confines, respectively, of the former Choctaw, Chickasaw, Creek, and Seminole Nations. Moreover, Choctaw is spoken by a small group which remained in eastern Mississippi and by a number of scattered remnants in Louisiana, and Seminole is spoken by many of the Seminole Indians of Florida. Alabama and Koasati are now spoken in eastern Texas and western Louisiana respectively. Hitchiti, practically extinct, is remembered by less than a half dozen individuals living in the Seminole Nation in Oklahoma. The largest group of Mikasuki speakers comprise a part of the Seminoles of Florida, though a few (mostly recently arrivals from Florida) are also to be found in the Seminole Nation.

With respect to the nomenclature applied to these languages, it should be pointed out that the terms Choctaw and Chickasaw are of political rather than linguistic significance, since the two dialects are but subvarieties of the same language. The same is true of Muskogee and Seminole, and of Hitchiti and Mikasuki.

In working out the genetic classification of the Muskogean languages, it has been found that they may be subdivided into two main groups, Western and Eastern. The first of these contains only Choctaw (and its subvariety Chickasaw); the second comprises all the remaining languages. This second division

[1] Except where otherwise indicated, the material on which this paper is based is taken from my own field notes on these languages. The field work of Muskogee was financed by two grants (in 1936 and 1937) from the Department of Anthropology, Yale University. During the second of these trips certain Choctaw and Hitchiti materials were also collected. The collection of Koasati materials and additional Muskogee materials comprised a part of the work done on the history of the towns of the Creek Confederacy under a grant from the Penrose Fund of the American Philosophical Society in 1938–9.

[2] See the map supplement to Handbook of American Indians, Part I, ed. by Frederick Hodge (Bureau of American Ethnology, Bulletin 30; Washington, 1907).

may in turn be divided into three subgroups: Alabama-Koasati, Hitchiti (including Mikasuki), and Muskogee (including Seminole).[3] Most of the illustrative material provided in this paper is taken from Choctaw, Koasati, and Muskogee, a sufficiently wide representation to indicate that noun incorporation was a characteristic of Proto-Muskogean.

2. Noun incorporation, far from being the exotic process it was once considered, has been shown by Sapir[4] to be but one of several possible varieties of stem composition. Specifically, it is the formation of a derivative verb stem by compounding a noun stem with a verb stem.

While the process is reflected to some degree in all of the groups and subgroups of the Muskogean family, it is not a productive process in any of the individual languages. In some of them, indeed, its existence could not be demonstrated (perhaps not even suspected) without reference to the other languages. The only language which contains a set of nouns clearly related to the petrified nominal elements found in certain Muskogean verbs is Muskogee.

3. In Muskogee the three most important incorporable nouns (in their typical incorporating forms) are *nok-* 'neck', *fik-* 'heart', and *cok-* 'mouth'.[5] These are respectively related to the possessed noun stems[6] *-nókwa* 'neck',[7] *-fi·ki* 'heart', and *-cókwa* 'mouth'.

The incorporated noun *nok-* as employed in Muskogee always refers to the neck or throat. Sometimes the verbal derivative containing the noun can be completely analyzed:

nokfayyitá 'to wring ... by the neck', lit. 'to neck-wring' < *nok-* + *fayy-itá*[8] 'to wring, crank ...'

noksómki· 'hoarse', lit. 'throat-lost' < *nok-* + *sómk-i·*[9] 'lost' (past participle of *somk-itá* 'to get lost')

In other cases, however, the verb stem to which *nok-* has been attached does not have an independent existence in the language:

nokfipíta 'to seize ... by the throat'

nokcipilitá 'to choke ...'

nokkaca·kkoycitá 'to strangle ...'

nokmilíta 'to swallow a liquid'

The incorporated noun *fik-* 'heart' is found to occur, appropriately enough,

[3] The reasons for this classification are set forth in my article, The Classification of the Muskogean Languages, to appear in the Sapir Memorial Volume (in press).

[4] Edward Sapir, Language, an Introduction to the Study of Speech 69–70 (New York, 1921).

[5] For an explanation of the system of orthography employed in Muskogee, see my article, Ablaut and its Function in Muskogee, LANG. 16.141–50 (1940).

[6] A possessed noun stem is one which cannot be used without a personal pronominal prefix referring to the possessor, e.g. *canókwa* 'my neck'.

[7] Whenever the suffix *-wa* is preceded by a consonant (as in *-nókwa* and *-cókwa*), it is dropped when it would come to stand before an element beginning in a consonant. This accounts for its loss in the incorporating forms *nok-* and *cok-*. The same rule applies when such words are compounded with nouns rather than verbs, e.g. *-cokhálpi* 'lip' < *-cókwa* + *hálpi* 'skin, hide'.

[8] The suffix *-ita* is the regular infinitive ending of Muskogee.

[9] The suffix *-i·* is a Muskogee participial ending.

in a number of verbs referring to sorrow, jealousy, and fear. As a general rule such verbs are analyzable:

fiknokkitá 'to get sad, sorrowful', lit. 'to get heartsick' < *fik-* + *nokk-itá* 'to get sick'

fikcakhitá 'to get jealous', lit. 'to get heart-stuck-in' < *fik-* + *cakh-itá* 'to get to be sticking up in'

fiksomkitá 'to get scared, frightened', lit. 'to get heart-lost' < *fik-* + *somk-itá* 'to get lost'

fikhamkitá 'to become brave', lit. 'to become heart-oned (i.e. singlehearted)' < *fik-* + *hamk-itá* 'to get to be one'[10]

fiktackitá 'to get out of breath', lit. 'to get heart-cut-off' < *fik-* + *tack-itá* 'to get cut off'

The same element also occurs in one unanalyzable verb *fikhonnitá* 'to stop, quit, cease'.

The Muskogee element *cok-* 'mouth' occurs with less frequency than do the other incorporable nouns. In the examples given below only the first is analyzable:

cokpaykitá 'to put ... in the mouth' < *cok-* + *payk-itá* 'to put one thing in ...'

coksa·kkitá 'to carry ... in the mouth'

cokna·hitá 'to talk like one who is demented'

4. The most common incorporated noun in Koasati is *nok-*, referring to the neck or throat. It is to be derived from a Proto-Muskogean stem **nok-* rather than directly from the regular Koas.[11] word *-no·bi* 'neck',[12] which in turn is derived from PM **-nokbi* (cf. Hitch. *-nokp-i* 'neck'). The element *nok-* is found in several derivative verbs of Koasati, only a part of which are analyzable:

nokpanayli 'to wring ... by the neck' < *nok-* + *panayli* 'to twist ...'

nokpannici 'to wring ... by the neck'

noktiłifka 'to grab ... by the throat' (cf. Choc. *noktiłiffi*, having the same meaning)

nokbi·li 'to get choked on food' (the same in Ala.)

nokwoyahli 'to belch'

noksolotka 'to get thirsty', lit. 'to get throat-dry' < *nok-* + *solotka* 'to get dry'

no·halatka 'to get a crick in the neck', lit. 'to get neck-caught' < *no·-* (var. of *nok-* before *h*) + *halatka* 'to get caught'

In the examples given above the reference to the neck or throat is clear. On the other hand, in a word like *noksi·pa* 'to get angry' the reference is somewhat

[10] Muskogee numerals belong to the verb system; see LANG. 16.148.

[11] The following abbreviations are used for names of languages: Koas. = Koasati; Hitch. = Hitchiti; Choc. = Choctaw; Ala. = Alabama; Musk. = Muskogee.

[12] The Koasati phonemic system may be briefly described as follows: There are four voiceless stops, *p*, *t*, *k*, and *c* (phonetically [č]); one asymmetrical voiced stop, *b*; four voiceless spirants, *f* (bilabial), *ł*, *s*, and *h*; and five voiced sonorants, *y*, *w*, *m*, *n*, and *l*. There are three vowels, *i*, *a*, and *o*. When not accompanied by the length phoneme, *i* is [ɪ] except in word-final position, where it is [e]; *a* is [ʌ]; *o* is [ʊ]. When accompanied by the length phoneme, the vowels are lengthened and their qualities undergo a change, thus *i·* is [e·], *a·* is [a·], and *o·* is [o·].

obscure until we discover that in Choctaw (see §6) a number of words referring to various passions also contain *nok-*, e.g. Choc. *nokhobi·la* 'to get angry'. The Koas. and Ala. word *nokcoba* 'to stop, quit' likewise contains *nok-*; note that the Musk. word of the same meaning (*fikhonnitá*, §3) contains *fik-*.

The incorporated noun *cok-* 'mouth' is somewhat rare in the Koas. material, having been found so far in only two words:

cokso·ka 'to kiss ...' < *cok* + *so·ka* 'to suck on ...', the Ala. term is *cokso·nka* < *cok-* + *so·nka* 'to suck on ...'

ilico·hokfi 'to put ... in one's mouth' < *ili-*, reflexive pref., + *co·-* (var. of *cok-* before *h*) + *hokfi* 'to put one thing in ...'

There are no independent examples of the incorporated noun *fik-* 'heart' in the available Koas. material and it seems likely that no such examples exist. The word *ficcakhi* (< earlier **fikcakhi*) 'to be jealous' has been borrowed from Musk. *fikcakhitá* (§3).[13]

5. In the available Hitchiti material I have found only one example of an incorporated noun, *nok-* in *nokpafi·ki* 'to choke', but it seems likely that more examples will be found when more material can be collected.

6. The incorporated nouns of Choctaw show an interesting situation. Only one noun is so used, namely *nok-*, but it covers much the same semantic territory as it is covered in Muskogee by both *nok-* 'neck, throat' and *fik-* 'heart'. Most of the examples quoted in this section are taken from Byington's dictionary.[14] Since the element *nok-* is not related to *-ko·nla·*, the regular Choc. stem for 'neck', the analysis of Choc. derivative verbs containing this element was not known to Byington. Nevertheless, because of his long contact with the tribe, his material is exceptionally rich in verbs of this type.

These verbs fall into two main semantic categories, the first of which comprises those which contain a clear reference to the neck or throat:[15]

noktaka·li 'to have something stuck in the throat', lit. 'to get throat-locked' < *nok-* + *taka·li* 'to hang, stick, lock'

noktiliffi 'to strangle ..., grab ... by the throat', lit. 'to throat-squeeze ...' < *nok-* + *tiliffi* 'to squeeze ... with the fingers'

nokšika·nli (B) 'to smart, tingle in the throat' < *nok-* + *šika·nli* 'to tingle in the nose'

nokbiki·li 'to be stifled as from overeating' < *nok-* + *biki·li* 'to press up against ... with a point or the end of anything'

noksakki (B) 'to be choked, strangled in water'

[13] The Koasati were one of several independent tribes conquered by the Creeks and incorporated by them into their confederacy.

[14] Cyrus Byington, A Dictionary of the Choctaw Language (Bureau of American Ethnology, Bulletin 46; Washington, 1915). Examples quoted from this source are indicated by a capital B placed in parentheses. Unmarked examples are taken from my own notes.

[15] In quoting the forms from Byington's dictionary certain transliterations have been introduced in order that the orthography might be consistent with that used for the other Muskogean languages. Such transliteration has been facilitated by my own knowledge of the language; the following brief description of Choctaw phonemes is taken from my own notes: There are four voiceless stops, *p*, *t*, *k*, and *č*; one asymmetrical voiced stop, *b*; five voiceless spirants, *f* (bilabial), *ł*, *s*, *š*, and *h*; and five voiced sonorants, *y*, *w*, *m*, *n*, and *l*. The vowel system is the same as that given for Koasati (footnote 12).

nokłamalli (B) 'to choke or suffocate'
nokpowalli (B) 'to feel nauseated' < *nok-* + **-powalli* (cf. *powaliči* 'to cause the waves to roll high')
nokšitiffi, nokšiniffi (B) 'to hang ... by the neck'
noksiti·li (B) 'to choke ... with a cord', lit. 'to neck-bind' < *nok-* + *siti·li* 'to tie, bind ...'
nokšila (B) 'to be thirsty', lit. 'to be throat-dry' < *nok-* + *šila* 'to be dry'
nokšammi (B) 'to be hoarse'
nokfoko·wa 'to hiccough'; also *nokfičo·wa, nokfičo·li* (B)

The second semantic category of verbs built up by means of *nok-* comprises those which contain reference to sorrow, fear, passion, or pain. In contrast to Choctaw, Muskogee verbs of this category are generally built up by means of *fik-* 'heart' and thus we see that in Choctaw *nok-* has taken over the functions of both *nok-* and *fik-* as these are employed in Muskogee:

nokha·nklo 'to be sorry'
nokwilo·ha (B) 'to be sad, sorrowful'
nokwanniči (B) 'to tremble through fear', lit. 'to neck-tremble' < *nok-* + *wanniči* 'to shake, tremble'; note that *nok-* adds the notion of fear to the complex
nokłaka·nčiči (B) 'to startle ...'
nokšobli (B) 'to frighten, terrify, intimidate ...'
noklibiša (B) 'to be in a passion', lit. 'to be neck-heated' < *nok-* + *libiša* 'to become heated'
nokpalli (B) 'to be interested, excited, tempted'
noktała 'to be jealous'
nokhobi·la (B) 'to be mad, angry'
noktala·li (B) 'to quiet, appease, soothe ...', lit. 'to neck-set ...' < *nok-* + *tala·li* 'to set, place one thing'
nokhammi (B) 'to ache'

In addition, a number of Choctaw verbs referring to palpitation are built up by means of *nok-*:

nokbimikači (B) 'to palpitate'
nokwimikači (B) 'to shake, tremble, palpitate, as after an effort at running'
noktimikači (B) 'to beat, pulsate, as the heart or pulse'
noktimiči (B) 'to palpitate quickly'

7. This concludes the evidence for the presence of noun incorporation in Proto-Muskogean. The process is not a free one in any of the modern languages and in Choctaw, for instance, evidence for its existence cannot be adduced without comparison with the other languages. Even in Muskogee, where the process seems to be best preserved, no new formations of a similar type can be made.

Since the process is no longer a free one, it is not surprising that it has not been previously reported as a characteristic of the Muskogean family. Other American Indian families and languages definitely known to employ the process include Shoshonean, Iroquoian, Pawnee, and Kutenai.[16] Muskogean may now be added to this list with the qualification that here the process is found as a survival only.

[16] Franz Boas, Race, Language and Culture 213 (New York, 1940).

SOME PROBLEMS IN HAUSA PHONOLOGY

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[A discussion of selected features of Hausa syllabic structure, tonal pattern, vocalism, and consonantism, with incidental criticism of earlier treatments of the language.]

1. THE PHONEMES OF HAUSA. The Kano dialect of Hausa,[1] a Soudanese language of British West Africa, has the following phonemes:[2] *p*, *b*, *'b*,[3] *m*, *w*, *p^y*, *t*, *d*, *s*, *z*, *ʒ'*,[4] *n*, *r*,[5] *ʀ*,[5] *l*, *č*, *j*, *š*, *y*, *'y*, *k*, *g*, *g'*, *k^y*, *g^y*, *g^y'*, *k^w*, *g^w*, *g^w'*, *h*, *ʔ*; *i*, *i·*, *e*, *e·*, *a*, *a·*, *o*, *o·*, *u*, *u·*. There are three tones: high (ˊ), low (ˋ), and compound (ˆ).

2. SYLLABIC STRUCTURE. Investigation of the syllabic structure of Hausa has led to substantially the same results as those announced by Klingenheben.[6] Inasmuch as these results are not widely known to English-speaking scholars and their implications have been disregarded in the dictionary by Bargery,[7] the orthography of which has become the one familiar to students, it will be well to recapitulate them here. The discussion will include several cases not explicitly considered by Klingenheben.

We reproduce first Klingenheben's original scheme: (1) CV, (2) CV·, (3) CVC.[8] The recognition of this analysis involves certain modifications in the standard orthography.

(a) The glottal stop, hitherto unwritten when it begins a word, must be considered a distinct phoneme. We thereby eliminate all instances in which a syllable appears to begin with a vowel. That the glottal stop functions as a consonant phoneme can be clearly seen, for instance, in the formation of the intensive of verbs by reduplication of the initial three phonemes, with the

[1] The data on which this paper is based were obtained on a field trip to Kano and vicinity in Nigeria, British West Africa, carried out as a Field Fellow of the Social Science Research Council (1938–1939), under the auspices of Northwestern University. I wish to thank Professor Leonard Bloomfield, Professor Melville J. Herskovits, and Dr. George L. Trager for their assistance in the preparation of this manuscript.

[2] This list represents one variety of Kano speech, that of the *p*-speakers. In the case of other speakers, the *p* and *p^y* phonemes are better written as *f* and *f^y* and the distribution of *f* and *h* before vowels differs from that of *p* and *h* among *p*-speakers. See section 5 below.

[3] *'b*, *'d*, and *'y* are voiced implosives, answering to the description of these sounds given by J. C. Catford, On the Classification of Stop Consonants, Le Maître Phonétique 54.2–5 (1939).

[4] In *ʒ'*, *g'*, *g^y'*, and *g^w'*, glottal release follows oral release. *ʒ'*, *g'*, etc., seem preferable to the usual writings *ts'*, *k'*, to distinguish these sounds, which are lenes, from the fortis type found, e.g. in *t'*, a sound used with learned connotations by some speakers in the place of *ʒ'* to represent the emphatic *ṭ* in Arabic loan words.

[5] *r* has a single flap; *ʀ* is rolled.

[6] A. Klingenheben, Die Silbenauslautgesetze des Hausa, Zeitschrift für Eingeborenen-Sprachen 18.272–97 (1928).

[7] G. P. Bargery, A Hausa-English Dictionary and English-Hausa Vocabulary; London, 1934.

[8] Klingenheben 282.

assimilation, in this intensive form, of the consonant which closes the first syllable to the initial consonant of the second syllable. The behavior of *ʔ* in the derivation of the intensive *ʔáʔʔáykàtá·* from *ʔáykàtá·* 'work' parallels that of *k* in the formation of *kákká·mà·* from *ká·mà·* 'seize'.[9] Similarly in compounds of *màràs* 'lacking' and a following noun, in which the *s* of *màràs* is assimilated to the initial consonant of the noun, the treatment of *ʔ* resembles that of other consonant phonemes. We may compare in its formation *màràhhánkàlí·* 'senseless' and *màràʔʔídò·* 'eyeless'.

(b) The diphthongs usually written *ai* and *au* are to be analyzed as *ay* and *aw*. This is tacitly assumed by Klingenheben, who writes *i̯* and *u̯*, i.e. tautosyllabic *i* and *u*, both in syllable-initial position, where *y* and *w* are used in the standard orthography, and in syllable-final position where it is customary to write *i* and *u*. An example, similar to those adduced above in support of the evaluation of *ʔ* as a consonant phoneme, may serve to illustrate the correct analysis of *ay* and *aw*. The intensive *kʷàkʷkʷá·wá·* may be compared with the simple form *kʷâw* 'beauty'. Likewise the treatment of the final component of *ay* in *rây* 'life' as compared with *rá·yìn* 'the life' is similar to that accorded in the formation of the definite to the final consonants of nouns ending in a consonant in their indefinite forms, e.g. *mùtûm* 'man' : *mùtúmìn* 'the man'.

(c) The palatalized and labialized velars *kʸ*, *kʷ*, *gʸ*, *gʷ*, *gʸ'*, *gʷ'*, usually written as clusters (the sole initial clusters in the standard orthography of Kano dialect), are unit phonemes. This has been noted by Klingenheben, but he recognizes their occurence only before *a* and *a·*, where the full series of contrasts—simple, palatalized and labialized—exists. Actually the palatalized forms are found before *e*, *e·*, *i*, and *i·*, to the exclusion of the simple velars, which have usually been written in this position. Similarly, the labialized velars are found before *o*, *o·*, *u̯*, and *u·*. These also have been considered simple *k*, *g*, and *g'*. There are also examples of *kʸu·* and *kʷi·*, so that a distribution results which in the case of *k* may be summarized as follows:

ka	*ka·*							
kʸa	*kʸa·*	*kʸe*	*kʸe·*	*kʸi*	*kʸi·*			*kʸu·*
kʷa	*kʷa·*				*kʷi·*	*kʷo*	*kʷu*	*kʷu·*

The reasons for this type of distribution, which also holds of course for the *g*- and the *g'*-series, will be discussed later in connection with vowel quantity.

In a few instances an *n* appears as the vocalic constituent of a syllable. This has generally resulted from the tendency of *i* to disappear in the syllable *ni*, with the retention of the *ni* form as a free variant, e.g. *bán* and *bà·ní* 'give me' and *ʔákàhàyfân* and *ʔákàhàyfé·nì* 'I was born'. In the examples just quoted no syllabic *n* appears. On the other hand, the disappearance of *i* in *zá· nì zó·* 'I shall go' has produced a form with an initial glottal stop and a vocalically functioning *n*: *zá· ʔǹ zó·*. Though the pronunciations with vocalic *n* are the ones habitually employed by speakers in these instances, there are always variants in which a vowel is inserted, producing a syllable of the CVC type. Thus *zá· ʔǹ zó·* has the variant *zá· ʔìn zó·*. The vowel selected varies dialectically, *u*

[9] I am indebted to R. C. Abraham, The Principles of Hausa 99 (Kaduna, 1934), for these examples.

being preferred in Kano where other dialects show *a* or *i*. All noted instances of syllabic *n*, with their variants, are listed here:

ʔǹ, ʔìn, nì, 1st sg. pronoun with jussive
ʔń, ʔín 'if'
ʔńnà·, ʔínà·, 1st sg. pronoun with continuous
zá· nì, zá· ʔǹ, zá· ʔìn, zân, 1st sg. pronoun of the periphrastic future
ʔǹʔì·ná·, ʔìnʔì·ná· 'stuttering'
ʔńgʷó·, ʔúngʷó· 'here it is'
ʔǹgʷó·zó·mà·, ʔùngʷó·zó·mà· 'midwife'
ʔǹgʷúlú, ʔùngʷúlú 'vulture'
ʔǹgʷúwá·, ʔùngʷúwá· 'town quarter'
'dǹ, 'dîn, emphatic adverb placed after demonstratives
mǹ, mîn, mínì 'to me'

Vocalic *n* in Kano is phonemically *-in* or *-un* and alternates morphophonemically, in some cases, with *ni*.

A few examples illustrating the syllabic structure of Hausa words are appended, followed in each instance by the same word in the standard orthography: *ʔá·-ì-šá* (*a'isha*) 'Ayesha', a girl's name; *sá·-à·* (*sa'a*) 'hour'; *kʸâw* (*kyau*) 'beauty'; *káy* (*kai*) 'you', masc. sg.; *gʷán-dà·* (*gwanda*) 'pawpaw tree'; *gʷ'á·-rí·* (*kwari*) 'strength'; *dó·-kʸì·* (*doki*) 'horse'; *gʸí-dá·* (*gida*) 'house'.

3. TONE. The presence of significant tone in Hausa was first recognized by Taylor.[10] At present, the generally accepted account of the Hausa tonal system is that contained in the introduction to Bargery's dictionary, and in the grammar of Abraham, who participated in the compilation of this dictionary. According to these writers, Hausa has the following six tones:[11]

high	high falling
mid	mid falling
low	low falling

It can be shown, however, that the tonal phenomena are adequately described by three phonemes of tone, which we shall call high, low, and compound, and indicate as follows:

'dá· 'son' (high)
dà 'with' (low)
sâ· 'bull' (compound)

The correspondences between this system and Bargery's may be stated in the following manner: high = Bargery's high and mid; low = Bargery's low and low falling; compound = Bargery's high falling and mid falling.

The simplification proposed here is based on the following considerations.

(a) The mid and mid falling tones may be dismissed as combinational variants of the high and high falling tones respectively, representing a lowering of pitch which occurs automatically whenever one or more low tones precede. The rejection of the mid and mid falling tones as distinct phonemes of tone is admitted in effect by Abraham, who finds it unnecessary to mark the mid tones in

[10] F. W. Taylor, A Practical Hausa Grammar with Exercises, Vocabularies and Specimen Examination Papers; Oxford 1923.

[11] Bargery, Compiler's Introduction xxvii.

a manner different from that of the high tones, since they 'have no independent existence'.[12] In Bargery's dictionary, verbs denoting motion towards the speaker, which regularly end in *-o·* and have high tones on every syllable, are marked with middle tones. No difference was noted between the pronunciation of the tones of these words and those which Bargery marks with high tones on every syllable. Such words are always pronounced on a 'full' high level if initial in the utterance or only preceded by high tones, on a lowered or 'middle' level when preceded by one or more low tones. Thus, the tonal pattern of *yá· ká·wó· šì* 'he brought it', containing the verb *ká·wó* 'to carry towards the speaker', and *dáwá·kʷí·nè·* 'they are horses', is the same.

(b) The low falling tone must also be eliminated as an independent phoneme of tone. According to Abraham, this tone occurs as the pronunciation of a low tone in the last syllable of a noun when followed by *nan* 'that' (distant or invisible) or by *ne·* or *če·* 'is, are'.[13] Even before *nan*, *ne·* and *če·*, however, the pronunciation of the low tone does not differ, to my hearing, from its usual one. A low falling tone is also indicated by Bargery wherever the final syllable in a question has a low tone. This is but one instance of the general rule, exemplified in Bargery's dictionary, that final level tones in questions all become falling tones. This problem will be discussed in connection with the high falling tone.

(c) It seems preferable to call the high falling tone, with its combinational variant the mid falling tone, simply the compound tone. In its pronunciation it does not fall, but is pronounced on a slightly higher level than a high tone would be in the same position in an utterance, and with considerably more stress. With this exception, stress and tone go hand in hand in Hausa, a higher tone being accompanied by correspondingly heavier stress. It is this disparity between tone and stress that constitutes the distinguishing feature of the compound tone. Apparently this feature has led to the attribution of a high falling or mid falling tone to the final high or mid tone of a question. In a Hausa question, all the tones are raised and the stress proportionately increased; on the last syllable the rise is particularly great. The pronunciation of the final syllable of a question thus somewhat resembles the pronunciation of the compound tone. That it is distinct, however, can be seen from the difference in tonal pattern between *yá kàn sá·?* 'is he in the habit of placing?' and *šî· nè· sâ·?* 'is it a bull?'. Syllables which bear the compound tone (i.e. high falling or mid falling) are, with one exception to be discussed, of the form CVC and CV· and are in many instances demonstrably the result of the contraction of a high tone and a following low, e.g. *zá·nì* or *zân* 'I shall go'. It seems that there is still another type of tone in Hausa, which we shall call rhetorical, and which has hitherto been marked as compound. This tone, which resembles somewhat the compound tone in its pronunciation, produces a rise in the pitch of surrounding syllables and is itself marked by an extremely high pitch, higher than that of the compound tone, accompanied by a non-phonemic lengthening of its vowel. In words which are habitually pronounced with this tone, there are free variants, of extremely rare

[12] Abraham 4.

[13] Abraham 21. The tones of the enclitic words *nan*, *čan*, *ne·*, and *če·* reverse that of the preceding syllable.

occurrence, in which an ordinary high tone is found. Examples of this 'rhetorical' tone, here marked (″), are emphatic color adverbs, e.g. *já· wŭʀ* 'very red'; semi-onomatopoetic adverbs, e.g. *tăk* 'exactly', *kăl* 'spick and span';[14] the particle *bă*, and the exclamation *kăy*; *čăn* and *năn* 'there' (distant, invisible) as contrasted with the ordinary *čan* and *nan* 'there' or 'here' (visible). Whether all these examples are comparable requires further investigation; they are certainly distinct from the ordinary compound tone, and the recognition of their existence helps to clear away several difficulties. One of these concerns the particle *bă*, which would be the only example of an open syllable with a short vowel that has a compound tone. The explanation can now be advanced that it has an inherent high tone, but that it is normally pronounced with a rhetorical tone because of its emphatic meaning. In similar fashion, the difference in pronunciation of *kăy* an exclamation, *káy* 'you', and *kây* 'a head', is satisfactorily accounted for.[15] Lastly, the whole series of emphatic color adverbs and onomatopoetic adverbs could hardly be explained as contractions. After the subtraction of these instances of the rhetorical tone, all the remaining examples of the compound tone can be considered, with a high degree of probability, as the results of a succession of a high tone and a low tone.

The occurrence of the compound tone exclusively on syllables of the form CV· and CVC suggests that they can be classified together as two-mora syllables. In that case, it is possible that the long vowels are to be analyzed as geminate clusters of short vowels. An alternative treatment would be to set up a single segmental phoneme of length.

4. Vowel Quantity. The vowel phonemes of Hausa are pronounced differently in pausal and non-pausal position. In pause, all vowels are tense, the quality of each short vowel and its corresponding long is the same, and the difference of length between short and long vowels is extremely reduced. In pause we have the full series of vowels, *i*, *e*, *a*, *o*, *u*, *i·*, *e·*, *a·*, *o·*, *u·*. In non-pausal position, the long vowels are more prolonged than in pause, but retain the same quality; the short vowels become lax and centered, and we usually find only *a*, *i*, and *u*, pronounced approximately like the vowels in American English *cut*, *hit*, and *put*.[16] Non-pausal short *e* and *o* are replaced by *a*. Where *e* and *o* are in word final position, we can contrast their appearance in pausal and non-pausal position. For example, the final *o* of *gàmbó*, a proper name, in pause (as, for instance, in calling a person of that name), is pronounced with the same quality as *o·*, but is somewhat shorter. On the other hand, in the

[14] The peculiar pronunciation of these adverbs, both those of color and the semi-onomatopoetic, was noted by R. Prietze, Die spezifischen Verstärkerungsadverbien im Hausa und Kanuri, Mittheilungen des Seminars für Orientalische Sprachen 11.307–17 (1908). He describes their pronunciation in the following terms (316): 'Sie werden gegenüber dem vorhergehenden Wort, das sie verstärken sollen, sowohl durch emphatischen Akzent (stress) als durch eine Quart höheren Ton hervorgehoben; hierbei bleibt in den beiden Silben zweisilbiger die Tonhöhe fast die nämliche.'

[15] Abraham (2) has noted that these three words are distinct in pronunciation.

[16] An important reason for considering the lengthening of a short vowel in the rhetorical tone as non-phonemic is the fact that the lax quality of the short vowels is retained in spite of the lengthening.

sentence *gàmbá nè·* 'it is Gambo', the *o* being in non-pausal position changes morphophonemically to *a*, and is pronounced in the same manner as the *a* of the first syllable. Similarly, we may contrast the *e* of *gʷòːbé* 'tomorrow', when pausal, as in *zây zó· gʷòːbé* 'he will come tomorrow', with the *a* in non-pausal position, as in *gʷòːbá nè·* 'it is tomorrow'. In accordance with this general principle, no *e* or *o* occurs in Hausa in non-final position in words, for such a vowel could under no circumstances occur in pause, and therefore always appears as *a*. It would seem a priori plausible that some of these examples of *a* in non-final position in words represent original *e* and *o*, for it is hardly to be expected that *e* and *o* should always have been restricted to word-final position. This conjecture is greatly strengthened by the prevocalic distribution of the simple, palatalized, and labialized velars cited above. We may assume that there was originally non-phonemic variation in the velars, by which they were palatalized before front vowels and labialized before back vowels. With the shift in the pronunciation of non-pausal *e* and *o* to *a*, the original palatalization and labialization were retained, giving *kʸa* and *kʷa* respectively and establishing the contrast *ka*, *kʸa*, *kʷa*, thus making members of the simple, palatalized, and labialized series of velars distinct phonemes. The reality of this shift can be demonstrated in cases where there is a morphophonemic alternation of long vowel in open syllable and short vowel in closed syllable, in accordance with the normal syllabic structure of the language. An instance is the contrast of the absolute form of the adjective and the prenominal form with suffixed *n* before masculine and plural nouns and *r* before feminines. In the form ending in a closed syllable, we have *a* from *aː*, *eː*, and *oː*; *i* from *iː*; and *u* from *uː*. The palatalization and labialization of the velars before *e* and *o* is retained before the *a* in the form with closed syllable. Examples are *párá· čè·* 'it is white' (fem.) : *párár gʷóːʼdìyá·* 'a white mare'; *gàjéːré· nè·* 'it is short' (masc.) : *gàjéːrán hánnú·* 'a short hand'; *bágʼàːgʸéː nè·* 'they are black' : *bágʼàːgʸán dáwáːkʸí·* 'black horses'; *párí· nè·* 'it is white' (masc.) : *párín dóːkʸì·* 'a white horse'; *sáːbó· nè·* 'it is new' (masc.): *sáːbán gʸídá·* 'a new house'; *dóːgʷó· nè·* 'it is tall' (masc.) : *dóːgʷán mùtûm* 'a tall man'; *míyàːgʷú· nè·* 'they are evil' : *míyàːgʷún mútàːné·* 'evil men'.

In cases such as those just cited, where the same morpheme has two forms, one in *e* or *o* and the other in *a*, there are free variants in which an *e* or *o* is pronounced in non-pausal position, the former approximately as the *e* in *get*, the latter as a lax lower-mid-back vowel. For instance, alongside the usual pronunciation *dóːgʷán mùtûm* 'tall man', there exists a pronunciation *dóːgʷón mùtûm*. Likewise all words with final *e* and *o* have rare variants in which *e* and *o* are pronounced in non-pausal position in place of *a*. Verbal nouns of the type *čìyéčìyé* 'the act of frequent or intensive eating', from *čí* 'eat', may have an *e* pronounced in the second syllable, though the pronunciations *čìyáčìyé* in pause and *čìyáčìyá* in non-pausal position are more frequent. Here, evidently, the pattern of reduplication has kept alive the *e* in a position where it can never be pausal. The word *dón* 'because' is pronounced both *dón* and *dán*. In this instance there is no obvious reason for the retention of the *o*. Mention may also be made of the Fulani loan words *béllò*, a personal name, and *ʼbélʼbèl* 'adulterated milk', which are pronounced with either *e* or *a*; the former

is more usual. Where, as in these examples, a variant pronunciation with *e* and *o* in non-pausal position exists, this form must be considered basic. Any attempt, however, to restore *e* and *o* in non-pausal position, when no actual pronunciation of *e* and *o* exists as a variant, is impossible on a descriptive basis.

5. *f*, *p*, AND *h*. What is quite transparent in the case of the velars, has also taken place less clearly with other consonants, and bears witness to a general tendency in Hausa towards the palatalization of consonants before front vowels and velarization before back vowels. Thus, the alveolars *t*, *d*, *s*, and *z* appear before front vowels as *č*, *j*, *š*, *j*, respectively. This can be illustrated from plurals with change of vowel in the last syllable, both with and without reduplication: *hántà·* 'liver', pl. *hántó·čí·*; *g'ásá·* 'country', pl. *g'ásà·šé·*; *gʷídá·* 'house', pl. *gʷídà·jé·*; *kà·zá·* 'chicken', pl. *kà·jí·*. The neighboring dialect of Katsina has the phonemes t^w, d^w, s^w, and $'d^w$, which occur before the back vowels and *a*, where Kano has simple *t*, *d*, *s*, and *'d*. The alveolars were presumably palatalized and labialized earlier than the velars; *t*, *d*, *s*, *z*, and *'d*, are found before front and back vowels and no such peculiar distribution is found as in the case of the velars.

A particularly complex instance is that of the *p*, p^v, and *h* phonemes. In accordance with their treatment of these phonemes, we may divide Kano speakers into *f*-speakers and *p*-speakers. With the former, *f* is a bilabial fricative. The opening becomes successively greater before the rounded vowels *o*, *o·*, *u*, and *u·*, approximating the pronunciation of *h*. Before these vowels only one phoneme appears as the representative of *f* and *h*. With these *f*-speakers this phoneme is to be considered *h*, because in such words as *rúnhú·* 'a species of tree' the nasal which closes the first syllable is pronounced *ŋ*, the form which it invariably takes before *h* and the velar consonants. *f*-speakers have a f^v phoneme, a palatalized *f* which contrasts with the simple *f* before *a* and *a·*, and occurs before the front vowels to the exclusion of *f*. The labialized h^w which would be expected before back vowels, and actually exists in the dialect of Katsina, is not found among any Kano speakers, being replaced by *f* in the dialect of *f*-speakers. *h* is found before the front vowels in Arabic loan words. The distribution of these phonemes before vowels for *f*-speakers is thus:

fa *fa·*
f^va $f^va·$ f^ve $f^ve·$ f^vi $f^vi·$
ha *ha·* *he* *he·* *hi* *hi·* *ho* *ho·* *hu* *hu·*

The *p*-speakers have a bilabial stop, and the single phoneme which appears before the back vowels as the representative of *p* and *h* is to be evaluated as *p*, since in such word as the *f*-speakers' *rúnhú·*, cited above, they pronounce *rúmpú·*, where the phoneme is seen to belong to the labial series. These speakers have a contrast of *p* and p^v before *a* and *a·*, corresponding to the contrast of *f* and f^v among *f*-speakers. Before the front vowels, however, *p*-speakers have *p*, not p^v. For these speakers, then, the prevocalic distributions are:

pa *pa·* *pe* *pe·* *pi* *pi·* *po* *po·* *pu* *pu·*
p^va $p^va·$
ha *ha·* *he* *he·* *hi* *hi·*

6. VOWEL QUANTITY IN WORD-FINAL. The true length of vowels in pause is difficult to detect because, in this position, long and short vowels have the same qualities and the difference of length in pronunciation is greatly reduced. Since compilers of dictionaries have heard words in isolation, with the final vowel in pause, the true quantity of final vowels in Hausa has not hitherto been recognized. If one examines the quantities of vowels in word-final in Bargery's dictionary, one finds that as a rule final vowels with a high tone are marked as long, those with a low tone as short. This seems to rest upon a convention, and no more than a convention, employed in the writing of Hausa in the Arabic script. A perusal of the Hausa texts in Arabic script contained in R. S. Rattray's Hausa Folklore or F. W. Taylor's Hausa and Fulani Readings will show that words with vocalic final are written with letters of prolongation if their tone is high, and without them if their tone is low.

When the correct quantities of final vowels in Hausa have been ascertained, it immediately becomes apparent that in substantival words length is phonemic.[17] Most proper names, both place names and personal names, end in a short vowel, and this is always true where the name has a meaning in Hausa, e.g. we may contrast *dáwá·kʷi* as the name of a place with *dáwá·kʷí·* 'horses'. In contrast, practically all words which indicate a species have a final long vowel, and this includes all plurals in the language. Numerals (except *'dárí·* 'hundred' and *dúbú·* 'thousand') and adverbs of time, manner, and direction have short final vowels. Furthermore, a few nouns, when used adverbially, have a special form with a short vowel, e.g. *ʔà g'ásà* 'downwards, on the ground', but *g'ásá·* 'a definite piece of earth, a country', with the plural *g'ásà·šé·*. This adverbial form of the noun is probably related to what Abraham calls the locative case,[18] which occurs almost exclusively with nouns indicating parts of the body. When preceded by the preposition *ʔà* 'at, in, on', these have an abbreviated form, generally ending in a short vowel. The full form of the noun is optional but not usual. In this respect, the locative forms differ from such examples of the adverbial form of the noun as *g'ásá·*, cited above, where the form with short final vowel is universal when the noun is used adverbially. Examples of the locative are *bà·kʷí·* 'mouth', *ʔà bákà* or *ʔà bà·kʷí·* 'in the mouth'; *ʔídó·* 'eye', *ʔà ʔídò* or *ʔà ʔídò·* 'in the eye'.

We thus find a general contrast in Hausa between words ending in a long vowel, which indicate a species, and words ending in a short vowel, which are sui generis, either because they are unique, as with proper names, or because they designate an expanse considered indivisible in the particular context.

[17] A substantival word in Hausa may be defined as one that is capable of being followed by *ne·* or *če·* 'is, are'.

[18] Abraham 33–4.

SOME NEW ENGLAND WORDS IN WISCONSIN

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[The Handbook of the Linguistic Geography of New England lists certain words and expressions as 'innovations' and 'relics' in New England. This paper, based on fifty field records just completed by the author for the Linguistic Atlas of the United States and Canada, examines the status of these words and expressions in Wisconsin. Their status rarely proves to be the same; Wisconsin is seen to be in general less conservative than New England.]

INTRODUCTORY

As the Linguistic Atlas of the United States and Canada steadily extends its work, it reaches, in the Great Lakes and Ohio River Valley, one of its most interesting regions, comprising Illinois, Indiana, Kentucky, Michigan, Ohio, Wisconsin, and part of Ontario. Here the more eastern patterns of American English, both northern and southern, meet and mingle, dominating and replacing (though not themselves uninfluenced by) the dozens of other languages brought by foreign immigrants. The resultant speech of this region today is far from homogeneous.

Preliminary phonological and morphological studies have been made covering Illinois, Indiana, Michigan and Ohio;[1] the present study is lexical, and covers Wisconsin alone, the most westerly state in the group, and the most fully investigated so far.[2] By way of explaining the choice of localities and informants for the Atlas records, we begin with some remarks on the settlement of Wisconsin.

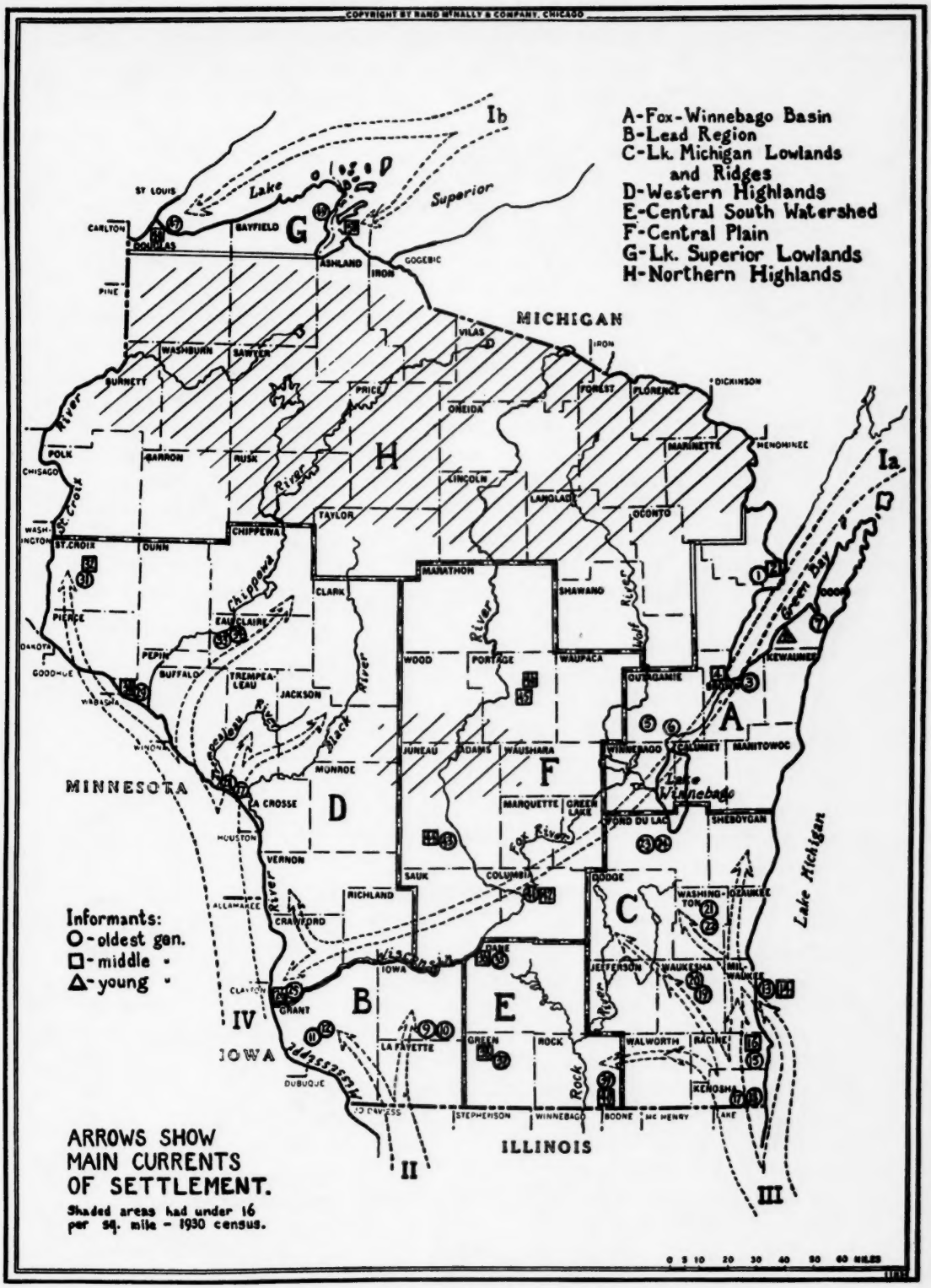
The main currents of settlement in this state[3] were four (see the accompanying map):

I (a and b). The first men to come were the French, via the Great Lakes and Green Bay, where Jean Nicolet landed in 1634. They explored a vast territory, establishing missions for the Indians, and posts and forts for the fur trade. The river system furnished adequate communication for these purposes, and for 150 years no attempt at agricultural settlement was made, except in the immediate environs of the towns. The most important settlements were at Green Bay (mouth of the Fox River), and Prairie du Chien (mouth of the Wisconsin River).

[1] A. H. Marckwardt, paper read and preliminary maps for Michigan and Indiana distributed at the summer meeting of the Linguistic Society, Ann Arbor, 1938; paper read and preliminary maps for Michigan, Indiana, Illinois, and Ohio distributed at the meeting of the American Dialect Society, New Orleans, 1939. See also Marckwardt, Middle English *ð* in American English of the Great Lakes Area, Papers of the Michigan Academy of Science, Arts, and Letters 26.561–71 (1940, publ. 1941).

[2] Field records have been completed at the time of writing as follows: Kentucky 5, Indiana 8, Michigan 8, Illinois 9, Ohio 20, Wisconsin 50. The number contemplated for each state in the group is about 50.

[3] Information given here is based mainly on Guy-Harold Smith, The Populating of Wisconsin, The Geographical Review 18.402–21 (1928), with excellent maps; Joseph Schafer, Four Wisconsin Counties, Prairie and Forest, Madison, 1927; id., The Wisconsin Lead Region, Madison, 1932.



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They also made the first settlements in the Fox River valley, at Portage, at Milwaukee, in the upper Mississippi country, at La Pointe and the head of Lake Superior, etc.

The French were spread out thinly over a wide area, with only a few nuclei, and resisted agricultural settlement, for it drove away fur-bearing animals. They mixed much with the Indians, and later (when the sovereignty of the region changed) with Americans; they are now almost wholly absorbed linguistically. The present speakers of French in Green Bay, along the south shore and up into Door peninsula, are Belgians, who began to come in from 1853 on. French Canadians have also been entering the state steadily, perhaps increasingly in recent years.

II. The 'Lead Region', the southwest corner of the state, was next settled. As early as 1690 the French had known of the existence of lead here, but not till the 1820's did American miners come north in some numbers from the mines around Galena, Illinois. About 1825 there was a veritable 'lead rush', followed in the 1830's by agricultural settlement, which greatly increased in the 40's, for the land had proved excellent. When the price of lead fell and the California gold rush drew many miners away, this region began to be converted into the almost wholly rural one it is today.

This section of the state is the only one which was demographically distinctive, at least in early years. The United States census of 1850 shows less than 5% non-English-speaking here, as compared with 20% in the state at large. Here too, while never reaching a majority, the native population from southern and southwestern states was greater than anywhere else; New Yorkers were in the majority everywhere but here, where Illinoisians were more numerous.

Cornish miners began to come about 1830; by 1850 the Cornish made up about one sixth of the region's population. After 1850 the northward direction of immigration into this region was qualified by the general westward one. The linguistic picture was also modified, the change to agriculture bringing in many foreign-language speakers, particularly Germans.

III. The termination of the 'Black Hawk War' in 1832 marks the beginning of agricultural settlement of the southeast portion of the state. News spread of good land free from Indians, speculators hastened to buy up good farm and mill sites, and emigration companies became active. In 1835 and early 1836 the 'Yankee element' began to pour in, many coming overland to Chicago, then by boat to Milwaukee, others by land all the way. More than half were from western New York, the rest from New England, Pennsylvania, Ohio, and Michigan. 'New York's title to primacy in peopling Wisconsin is exhibited, most impressively, in the statistics of the 1850 census. At that time native Americans constituted 63 per cent of the total, and New Yorkers had 36 per cent of the native majority.'[4]

This 'Yankee element' spread generally through the open woodlands and prairies in the east, south, and central parts of the state, and in the north along the Lake Michigan lowlands mingled with the German element which had begun

[4] Joseph Schafer, The Yankee and the Teuton in Wisconsin, repr. from the Wisconsin Magazine of History 6.2 (1922) and following numbers.

to come in 1839 and had moved chiefly north and northwest out of Milwaukee into the forested lands.

The Yankees preceded others almost everywhere in the state, speculating in land, building grain and lumber mills, farming, and forming the commercial element. They introduced education and furnished the first schoolteachers; foreign colonies depended on them for supplies, milling, markets for their produce. Some Southerners, it is true, were active up the Mississippi, at Superior, and at other places, but the Civil War called many of them back. Thus the Yankees remained in control and set the initial linguistic patterns.

IV. Up to 1850, the population of Wisconsin had remained almost wholly south of the line from Green Bay to Prairie du Chien formed by the Fox and lower Wisconsin Rivers. But during the following decade began the inland movement, northward from and along these rivers, and particularly up the Mississippi and its northeastern tributaries: the La Crosse, Black, Trempealeau, Chippewa, and St. Croix Rivers. Here colonization was from west to east, or rather northeast.

The linguistic picture was mixed here. Fewer direct settlements were made; more often settlers came from further east and south in Wisconsin and neighboring states, where they had already spent some time. Some foreign-language speakers formed colonies, but greater numbers came singly and settlements were less homogeneous. Again the Yankee element superseded the French-and-Indian, gained commercial control, and set the language patterns, to which the later-coming foreigners conformed.

From 1830, steamboats had begun to be the active means of transportation via the Great Lakes and the Mississippi River, and the railroads were not to change this pattern for another forty years; but by the 1880's overland connections with the southern and eastern half of the state were fully established, and the general western movement of population reached the Mississippi and tributary settlements this way also.

The 1840's and 50's were the era of colonization. Groups from many European countries— particularly the northern—poured into Wisconsin (those from south and central Europe came somewhat later). No other state east of the Mississippi has directly absorbed so large a proportion or variety of foreigners. This fact was of course taken into account in planning the dialect survey, and localities and informants were chosen, as far as possible, to be proportionally representative of native and foreign groups. Table 1 shows the originally foreign colonies in which informants were sought.[5] Table 2 is the complete, numbered list of the fifty informants (all United States born), their localities, sex, age-group,[6] and immediate derivation. Table 3 analyzes this derivation to show

[5] Note the distinction between colonies of foreigners and foreigners who became members of native or mixed groups. The latter were assimilated far more rapidly. Table 1 is concerned with colonies; Tables 2 and 3 list all foreigners, whether in colonies or not.

[6] Ideally, the informants should be of many generations, to furnish comparisons and show the 'drift' of linguistic change. As usual, however, there were practically limitations of funds and time, and the youngest generation had to be almost wholly sacrificed. The location of each informant is shown on the map. The proportion of about two oldest to one middle should be kept in mind when considering questions of drift.

the proportions of English-speaking, non-English-speaking, and mixed parentage of the informants.

The localities represented will be readily seen from the map. Their distribution closely follows the distribution of the population both at the time of settlement and today. The Northern Highland (H) was left aside because settled too sparsely and too late. All informants were born at or very close to the place they were taken to represent, except one; but that one (no. *43*), born in Vermont, was brought to Wisconsin 'on a pillow' at the age of three weeks, and stayed thereafter where her parents settled.

The Handbook of the Linguistic Geography of New England[7] notes (1–5) some 'innovations' and 'relics' found by the Atlas in New England. From these the lexical items are here selected, and examined as to their current status in Wisconsin. The Handbook does not define 'innovation' and 'relic'; apparently there was no exact counting of instances behind the use of these words. However, the sense in which they are intended is fairly clear. I take them (and use

TABLE 1

FOREIGN COLONIES

Nationality	*Place*	*Date*	*No.*
French (and Indian)	Prairie du Chien	17th C.	*26*
French (and Indian)	Marinette	17th C.	*2*
Norwegian	Clinton-Bergen	1838	*40*
Welsh	Genesee	1840	*20*
German (Prot.)	Jackson	1844	*22*
German (Cath.)	Roxbury	1845	*36*
Swiss	New Glarus	1845	*38*
Dutch	Little Chute	1848	*6*
Bohemian-Moravian	Caledonia	1851	*16*
Swedish	Stockholm	1851	*30*
Belgian	Brussels	1853	*8*
Polish	Ellis-Polonia	1857	*46*

them) to mean something like this: an INNOVATION is a form that has recently appeared, has not yet come into general use, and is increasing in frequency; an ESTABLISHED form is one that has not recently appeared, is in general use, and seems to be stable in frequency; a RELIC is a form that has not recently appeared, is in limited use, and is decreasing in frequency. (Rate of drift is the least significant feature.)

Seventeen words are here examined in detail, along with their lexical equiva-

[7] By Hans Kurath and others; Providence, 1939. Hereafter referred to simply as the Handbook.

[8] Table 2 gives the numbers by which the informants are referred to (in italics here and in the text below), the county and the township or city in which they live, their sex, their age in terms of the three generations represented, and the derivation (birthplace or original language community) of their parents. The following abbreviations are used: Belg. = Belgian, F = female, Fr. = French, Ger. = German, Ind. = American Indian, Ir. = Irish, M = male, *m* = middle generation, *o* = oldest generation, Pol. = Polish, Sc. = Scottish, Swed. = Swedish, *y* = younger generation.

Note to informant *48:* His mother died when he was a small child, so that her German speech left no trace in his dialect.

Table 2

Informants[8]

No.	*County*	*Twp. or City*	*Sex*	*Age*	*Father's deriv.*	*Mother's der.*
1	Marinette	Grover	M	*o*	Germany	Germany
2	Marinette	Marinette	F	*m*	Wis. (Sc. Fr. Ind.)	Wis. (Fr. Ind.)
3	Brown	Scott	F	*o*	Germany	Germany
4	Brown	Howard	M	*m*	Wis. (Fr.)	Wis. (Ir.)
5	Outagamie	Grand Chute	M	*o*	Ireland	Germany
6	Outagamie	Van den Broek	M	*o*	Holland	Holland
7	Door	Sturgeon Bay	M	*o*	New York	New York
8	Door	Brussels	M	*y*	Wis. (Belg.)	Wis. (Belg.)
9	Iowa	Mineral Pt.	M	*o*	England	England
10	Iowa	Mineral Pt.	M	*o*	Ill. (Tenn.)	Ill. (Ky.)
11	Grant	S. Lancaster	M	*o*	Virginia	Virginia
12	Grant	S. Lancaster	M	*o*	Cornwall	Cornwall
13	Milwaukee	Milwaukee	M	*o*	Maine	Germany
14	Milwaukee	Milwaukee	F	*m*	Wis. (East US)	Vermont
15	Racine	Mt Pleasant	F	*o*	New York	New York
16	Racine	Caledonia	M	*m*	Moravia	Moravia
17	Kenosha	Plt. Prairie	M	*o*	Wis. (N. Y.)	Ireland
18	Kenosha	Plt. Prairie	F	*o*	Wis. (Conn.)	New England
19	Waukesha	Genesee	M	*o*	New York	Penna.
20	Waukesha	Genesee	M	*o*	Anglesey	North Wales
21	Washington	West Bend	F	*o*	Ireland	Ireland
22	Washington	Jackson	M	*o*	Germany	Germany
23	Fond du Lac	Oakfield	M	*o*	Vermont	Vermont
24	Fond du Lac	Oakfield	F	*o*	New York	Vermont
25	Crawford	Bridgeport	M	*o*	Wis. (Fr.)	Wis. (Fr. Ind.)
26	Crawford	Pr. du Chien	M	*m*	Ireland	Ireland
27	Trempealeau	Caledonia	M	*o*	New York	Penna.
28	Trempealeau	Trempealeau	M	*o*	England	Ireland
29	Pepin	Pepin	M	*o*	Penna.	Ohio
30	Pepin	Stockholm	F	*m*	Wis. (Swed.)	Sweden
31	St. Croix	Erin Prairie	M	*o*	Ireland	Ireland
32	St. Croix	Erin Prairie	M	*m*	Ireland	Ohio
33	Eau Claire	Brunswick	F	*o*	Germany	Germany
34	Eau Claire	Eau Claire	M	*o*	Ohio	Penna.
35	Dane	Roxbury	M	*o*	N. Y. (Vt.)	Wales
36	Dane	Roxbury	M	*m*	Wis. (Ger.)	Wis. (Ger.)
37	Green	Mt. Pleasant	M	*o*	Ireland	Ireland
38	Green	New Glarus	M	*m*	Switzerland	Switzerland
39	Rock	Clinton	F	*o*	New York	N. Y. (Conn.)
40	Rock	Clinton	M	*m*	Wis. (Norway)	Wis. (Norway)
41	Columbia	Ft. Winnebago	M	*o*	Ireland	Ireland
42	Columbia	Portage	F	*m*	Germany	Penna.
43	Juneau	Lemonweir	F	*o*	Vermont	Vermont
44	Juneau	Lemonweir	M	*m*	New York	Canada
45	Portage	Stockton	M	*m*	Ireland	Ireland
46	Portage	Sharon	F	*m*	Poland	Wis. (Pol.)
47	Douglas	Superior	M	*o*	Germany	Germany
48	Douglas	Superior	M	*m*	Pennsylvania	Germany
49	Bayfield	Bayfield	M	*o*	Washington, D. C.	Washington
50	Ashland	La Pointe	F	*m*	Ohio	New York

Table 3

English-speaking	30	American English	17
		Other English	10
		Mixed Amer. and other	3
Non-English-speaking	14		
Mixed English and non-English	6		

lents—a small number, but not too few for a sounding. In so far as these words are representative, how does Wisconsin compare with New England?

In reading the following tabulations, it should be kept in mind that the total number of informants is 50, comprising 33 of the oldest generation (over 70 years old), 16 of the middle (45–70), and only 1 of the younger (under 45). Each term is followed by an indication of the total number of informants who use it, and of the age-groups to which they belong (*o*, *m*, *y* = oldest, middle, younger); individual informants are identified by italic numbers corresponding to those on the map and in Table 2.[9]

Innovations

These, with their New England Atlas map numbers, are *earthworm* 236, *funnel* 145, *seesaw* 577, *cottage cheese* 299, *porch* 351, *gutter* 349, *pantry* 344, *clothes closet* 338, *near horse* 175, *at home* 403, *griddle cake* 289, *warmed over* 313. (*Apartment* 355 and *shopping* 554 were not included in the questionnaire used in the survey of the Great Lakes and Ohio River Valley region.)

Earthworm

The Handbook finds this 'restricted largely to the better educated in the cities . . . . On New Hampshire Bay earthworm may be old . . . . *Earthworm* is encroaching upon *angleworm* [through New England generally].'

In Wisconsin:

earthworm 4: 2*o* (*10*, *35*), 2*m* (*46*, *50*). All read a good deal; *46* considers it bookish.

angleworm 49: 32*o*, 16*m*, 1*y*. *31* uses *worm*, but his sons use this word.

fishworm 9: all *o*. Primary to *9*, *10*; secondary to *6*, *11*, *23*, *24*, *27*, *35*, *49*. *30* denies its use in her locality, but *29* says nothing concerning this.

fishinworm 1: *o* (*17*), considers this newer than *angleworm*.

rainworm 2: 1*o* (*22*), 1*m* (*36*). Both German-derived; *22* gave the German word too.

fishbait 1: *m* (*16*). Secondary.

anglers 1: *m* (*26*). Secondary.

baits 1: *m* (*38*). Secondary.

worm 1: *o* (*31*). Only term.

leech 1: *m* (*16*). Secondary; insisted that this was same as an angleworm, not a blood-sucker.

night-crawler 12: 6*o* (*7*, *9*, *11*, *35*, *39*, *47*), 5*m* (*30*, *36*, *40*, *44*, *48*), 1*y* (*8*). All call it larger or heavier, but most think it not a different worm from the angleworm.

crawler 2: 1*o* (*24*), 1*m* (*48*).

Summary: *Earthworm* is not widely known, nowhere the primary term, not specially localized; it is hardly 'encroaching' upon *angleworm*, the most widely

[9] For example, the entry '*earthworm* 4: 2*o* (*10*, *35*), 2*m* (*46*, *50*)' means that the term *earthworm* is used by a total of 4 informants, of whom 2 (namely those referred to in Table 2 and on the map by the numbers *10* and *35*) belong to the oldest generation, and 2 others (namely *46* and *50*) belong to the middle generation.

used term. *Fishworm* is probably on the way out; *rainworm* probably re-introduced, and not spread.

Funnel

The Handbook finds this 'still rather a city word even in southern New England. In northern New England *tunnel* is in general use. In southern New England the country people use *tunnel* predominantly and older city dwellers have not as yet given it up.'

In Wisconsin:

funnel 49: 32*o*, 16*m*, 1*y*. Only *23* did not mention this; he uses *tunnel*.

tunnel 7: 6*o*, 1*m*. Primary to *19*, but 'not proper; *funnel* is right'. Considered old by *15*, *27*, *35*, *39*, *44*; *35*, *44* laughed about it; *44* was 'cured of it in school'; *35* gave it up when his children made fun of him.

tundish 1: *o* (*5*). 'Older than *funnel*.'

Summary: *Funnel* is fully established in Wisconsin; *tunnel* is a relic remembered or used almost wholly by the oldest, all American-derived; apparently unknown to foreign-derived.

Seesaw

The Handbook says: 'encroaching upon *teeter* (*board*) and the more local terms *teeter-totter*, *tinter*, *dandle*, *tilt*(*er*), *teedle* everywhere in New England, especially in the south, but the older terms are still vigorous.'

In Wisconsin:

seesaw 14: 4*o*, 9*m*, 1*y*. Primary to *8*, *26*, *30*, *40*, *42*, *44*, *47*, *48*, *49*. Secondary to *27*, *32* (who both use it of horizontal motion, reserving *teeter* and *teeter-totter* for vertical), *6* (who uses it of futile argument), *14*, *45*. Two think *seesaw* older than *teeter-totter*, which is 'coming in' (*40*), and 'now heard in the schools' (*48*). *Seesaw* is being learned from the rime Marjorie Daw (*14*).

teeter-totter 35: 24*o*, 11*m*. Primary to all but five of these. Distribution general. Used as vb. (with *teeter-board* as sb.) by *15*. Used for what children chant while they *teeter* by *43*.

teeter 11: 10*o*, 1*m*. Primary to *3*, *7* (who both use it as vb., with *teeter-totter as* sb.), *18*, *23*, *27*, *29*, *34*, *35*, *43*. Secondary to *16* ('children say it'), *39*. Through the state except north and southwest.

teeter-board 2: *o* (*15*, *37*).

teeter-tot 1: *o* (*11*).

teeter-totter-board 1: *o* (*31*).

Summary: The situation in Wisconsin is similar to that in New England. The most common term, and still very vigorous, is *teeter-totter*, mentioned by 73 per cent of the oldest and 69 per cent of the middle informants. Despite some opinion to the contrary, *seesaw* is clearly an innovation: mentioned by only 12 per cent of the oldest but 56 per cent of the middle informants; the young informant uses this alone. Both terms distributed generally through the state.

Cottage cheese

The Handbook (33, chart 14) says: 'The term *cottage cheese* is widely used throughout New England, especially in urban areas . . . *pot cheese* in south-

western Connecticut . . . *sour-milk cheese* in eastern New England . . . *Dutch cheese* in western Massachusetts and Vermont, and in the entire Connecticut valley . . . . This term presumably came into use in western New England, owing to contacts with the Dutch in the Hudson Valley, and spread eastward. Only the conservative seaboard barred the intruder.'

In Wisconsin:

cottage cheese 41: 26*o*, 14*m*, 1*y*. Nine informants comment on the term being 'new' or 'now used'; *44*, *48* add that it is so called 'at the store', though some other term may be used at home.

Dutch cheese 30: 26*o*, 4*m*. Remembered generally; but only *24*, *29*, *31*, *35*, *44* say that it is still in use, whereas *7*, *15*, *17*, *23*, *27*, *33*, *34*, *39*, *43*, *49* say, and many others imply, that it is out of use. Strangely enough, the Dutch-derived informant (*6*) says this kind of cheese has never been made in his home; he has heard this term but is not sure what it means.

smear case 9: 6*o* (*9*, *11*, *24*, *29*, *39*, *47*), 3*m* (*16*, *42*, *48*). Scattered over state. *9* folk-etymologizes it to *smear cakes*. Three are partly or wholly of German, one of Moravian derivation.

sour-milk cheese 5: 2*o* (*5*, *21*), 3*m* (*14*, *36*, *45*); an old term to all. Eastern and central parts of state.

cook cheese 2: *o*, both Washington county. *21*, Irish-American, says the local Germans use the term; *22*, German-derived, uses it.

hand cheese 1: *o* (*21*); says the local Germans use this (because the cheese is molded in cupped hands); but *22* does not use it.

home-made cheese 1: *m* (*16*).

Summary: *Cottage cheese* is almost universally the current term in Wisconsin. Also widely remembered though very little used is *Dutch cheese*, giving evidence of early New York influence. Other terms exist locally. General adoption of *cottage cheese* as the commercial name, and the near-disappearance of the home-made product, work together. *Cottage cheese* is established; all other terms are relics.

Porch

In New England this has gained a 'foothold' instead of *piazza*.

In Wisconsin:

porch 50: 33*o*, 16*m*, 1*y*.

piazza 2: 1*o* (*34*), 1*m* (*14*). *14* says it is still in use. The sister of *37* also remembers it.

veranda 5: 1*o* (*13*), 4*m* (*14*, *42*, *44*, *48*). To all, this is a special term; to *42* it is 'fancier or prettier than a porch'; *48* thinks of the word as 'said by people who have traveled'.

stoop 29: 26*o*, 3*m*. All agree that *stoop* is older than *porch*; it was once 'the usual word' (*17*), 'old-timers always said it' (*44*), 'that was the name when they first began to build them' (*31*), etc. It is still in use (*17*, *19*); but some (*1*, *2*, *18*, *32*) say, and many others imply, that it is out of use. The Dutch-derived informant (*6*) thinks of it as chiefly used by the Dutch, not the 'English' settlers; but *5*, Irish-German, says, 'We used it altogether, years ago'. There is some

disagreement about the difference between a stoop and a porch. Seven informants say there is no difference, but twelve say that the stoop is smaller, less substantial, less elaborate, lacking a rail and sometimes a roof, and that it is usually at the side or back, the porch being in front.

the steps 1: *o* (*33*). A platform with steps, before the door; not as wide as a porch.

Summary: *Porch* is the fully established current term throughout the state. *Piazza* is a relic. *Stoop*, once in very wide use, and giving evidence of early New York influence, is also a relic. *Veranda* may be a new urban word.

Gutter

An innovation in New England for *eavespout* and *eavestrough*.

In Wisconsin:

gutter 9: 7*o* (*11*, *13*, *15*, *18*, *22*, *23*, *35*), 2*m* (*14*, *50*). Primary only to *22*, *50*; considered new by *23*. Built into the roof, *11*. The trough formed between adjacent peak roofs, while *eavestroth* is what hangs below the roof edge, *18*. Chiefly in eastern part of the state.

eavestrough 9: 7*o* (*3*, *6*, *9*, *12*, *19*, *21*, *47*), 1*m* (*42*), 1*y* (*8*). Generally, except west.

eavetrough 23: 15*o*, 8*m*. Throughout state.

eavestroth 3: *o* (*13*, *18*, *43*).

eavetroth 5: 3*o* (*15*, *23*, *35*), 2*m* (*38*, *40*). South and east-central parts of state.

eavespout 9: 6*o*, 3*m*. Through state except extreme north.

eavedrains 1: *o* (*33*).

trough 4: 3*o* (*21*, *24*, *41*), 1*m* (*30*).

troft 1: *o* (*12*).

spout(*s*) 6: 4*o* (*12*, *31*, *37*, *41*), 2*m* (*30*, *48*). (Also used by *40*, but for the pipe bringing the water down to the ground, more often called the *downspout* or *conductor*.)

raintrough 2: 1*o* (*24*), 1*m* (*46*).

raintroth 1: *m* (*14*).

watertrough 1: *m* (*30*).

waterspouts 1: *o* (*31*).

landers 1: *o* (*20*). He says it was his mother's word. Several other informants use this to mean downspout.

conductors 1: *m* (*32*). He says this is used for both horizontal and vertical pipes; many others use this, however, to mean downspout.

Summary: *Gutter* is known to a scattering of informants, all old but two; if once an innovation, it now seems a relic. The *eave*-words, particularly *eavetrough*, are the current group. *Eavespout* also has a measure of use. The *-trough* forms are far more numerous than the *-troth* forms. A great variety of names are in use.

Pantry

The Handbook (27, chart 4) says: 'Pantry ... throughout New England ... a newcomer replacing *buttery* and (*kitchen*) *closet* .... *Buttery* is rare in ... New

Hampshire coast towns and in (the adjoining) York Co., Maine. Here *pantry* is probably the original term'.

In Wisconsin:

pantry 50: 33*o*, 16*m*, 1*y*.

buttery 39: 30*o*, 9*m*. All feel *buttery* to be old-fashioned or even obsolete. Only *19*, *34*, *45*, *46*, *50* say it is still in use, but only among old-timers. Three informants think of it as a foreign word: *6* (Dutch) says old Dutch settlers used it; *22* (German) says old German settlers used it; *26* (Irish in a strongly French town) says old French settlers used it. This probably indicates chiefly their association of the word with a past generation. Pronounced in two syllables by all except *5*, *25*, who make it three.

larder 2: *m* (*14*, who says her aunt used it, and *46*, who says she has read it.)

cupboard 1: *o* (*43*). Says 'this was our word' for it—a room, not just shelves.

Summary: *Pantry*, now the universal term, has replaced *buttery* within the memory of the old informants. *Buttery*, though widely remembered (but not clearly by the foreign-derived) is a relic fast disappearing. (*Pantry* itself is in danger of falling into disuse, since the newer houses generally have none.)

Clothes closet

In New England, an innovation for *clothes press*.

In Wisconsin:

clothes closet 7: 4*o* (*13*, *19*, *37*, *49*), 3*m* (*44*, *48*, *50*).

closet 26: 17*o*, 9*m*. Through state generally.

clothes press 2: 1*o* (*24*), 1*m* (*4*). (*21* uses it of a piece of furniture with drawers for holding clothes flat.)

clothes room 1: *m* (*40*). A built-in piece.

clothes cupboard 2: 1*o* (*13*), 1*m* (*26*). A separate piece.

wardrobe 22: 12*o*, 10*m*. A separate piece, usually thought of as antedating the built-in (*clothes*) *closet*.

schrank 3: 2*o* (*5*, *22*), 1*m* (*36*). All of German or part-German deriv. Once much used, they say; but there is no evidence of adoption outside the German groups.

Summary: *Clothes press* is a relic; (*clothes*) *closet*, especially the simplex, is the established general term for a small built-in room for hanging clothes. *Wardrobe* is widely known for a separate piece, but less and less used as newer houses have built-in closets.

Near horse

The Handbook: This is an innovation 'mostly in western New England' for *nigh horse* (the left-hand horse in a team of two). Other occasional terms (see map) are *left* (*hand*) *horse*, *near-side horse*, *nigh-side horse*, the latter two chiefly in southwestern Connecticut.

In Wisconsin:

near horse 13: all *o* (*6*, *12*, *17*, *19*, *21*, *23*, *25*, *27*, *29*, *31*, *39*, *41*, *49*). All but *12* mean the left horse; he was uncertain but thought it meant the right horse.

nigh horse 21: 16*o*, 5*m*. *1, 3, 4, 5, 6, 7, 9, 10, 11, 18, 20, 24, 26, 28, 34, 35, 37, 47* the left horse; *30, 32* the right horse; *31* uncertain. Generally through state.

near-side horse 2: 1*o* (*35*) left horse, 1*m* (*36*) right horse.

off horse 27: 19*o*, 8*m*. This is the complementary term, but not all informants mentioned it. Most say it means the right horse; but *4, 30, 32, 50* say left, and *12* was uncertain.

left horse and *right horse* 5: 3*o* (*20, 22, 33*), 2*m* (*16, 40*). Mainly east and central south. Four of these informants are from non-English-speaking backgrounds.

gee horse 3: 2*o*, 1*m*. But they do not agree as to which side the horse is on; *11* says left, *7* says right; *4* (uncertain) thinks right.

Summary: *Near* and *nigh horse* both seem to be in current use through the state; but the former is less used and does not look like an innovation. Six informants gave no response; of these, three are foreign-derived. Use of *left* and *right horse* also seems a foreigners' innovation. Some confusion, but not widespread, as to position of horses; most mistakes are made by the middle generation (more familiar with tractors?).

At home

The Handbook: An innovation for *to home* in New England.

In Wisconsin:

at home 23: 15*o*, 8*m*. Generally through state.

to home 19: 15*o*, 4*m*. Generally through state.

home 20: 13*o*, 6*m*, 1*y*. Generally through state.

Summary: Usage is divided about evenly three ways. Informants of non-English-speaking derivation seem to favor the forms without a preposition.

Griddle cake

The Handbook: An innovation for *fritter* 'in Eastern New England'.

In Wisconsin:

griddle cake 8: 6*o* (*1, 17, 19, 21, 34, 49*), 2*m* (*14, 46*). Chiefly east; scattered elsewhere except southwest.

fritter 1: *o* (*11*). Thicker than a pancake, but same batter; cooked in deep fat.

pancake 48: 31*o*, 16*m*, 1*y*. All except *17, 25*. A three-syllable form was used by three informants, with middle syllable unstressed and varying from [ɪ] to [ə]: *6* (Dutch deriv.) *pannacake, 8* (Belgian deriv.) *pannycake, 43* (Vermont deriv.) *pancakes*, 'but *pannycakes* is the real name'.

hot cakes 1: *m* (*38*).

wheat cakes 1: *o* (*29*).

hoe cakes 1: *o* (*24*). Of cornmeal batter.

cakes 1: *m* (*26*).

flapjacks 11: 8*o* (*5, 7, 9, 10, 15, 24, 33, 49*), 3*m* (*4, 40, 48*). Generally, except central part of state. *15, 33* say it is not out of use; *49* says it was a lumberjacks' word. Generally remembered with amusement.

slapjacks 8: 4*o* (*6, 13, 23, 39*), 4*m* (*26, 36, 44, 45*). Scattered; not found west and north. *36, 39* remember it with amusement; *44* says it was a lumber-camp word.

clapjack 1: *o* (*12*), said with slight hesitation.

flatjacks 1: *o* (*28*). Like *clapjack*, this may be an error or a reinterpretation.

turnovers 1: *m* (*45*).

Summary: *Fritter* is almost unknown in this sense in Wisconsin; certainly a relic. *Griddle cake* is not widely known; there is no proof that it is an innovation, and it is probably not spreading. Most current is *pancake*, but *flapjack* and *slapjack*, usually jocular, are widely known.

Warmed over

The Handbook: 'In some instances the older expressions are now rustic or old-fashioned or have the character of relics, as in . . . *het over*, replaced by *warmed over*'.

In Wisconsin:

het over 1: *o* (*3*).

rehet 1: *o* (*24*).

[*het* 4: *o* (*10*, *15*, *18*, *37*), used of other things than food.]

This *het* group (comprising the three expressions above) is scattered through east and south only.

warm(ed) over 22: 16*o*, 6*m*. Generally through state.

warm(ed) up 19: 13*o*, 6*m*. Generally through state.

warmed again 1: *m* (*38*).

warmed up again 2: 1*o* (*24*), 1*m* (*36*).

(A complete record of the context of these phrases was not kept; some were predicative, some pre-nominal; in some the object separated verb and adverb.)

Summary: *Het* (*over*) is used only by the oldest, and even by them only scantily; it is a relic. Usage is currently about evenly divided between *warm(ed) over* and *warm(ed) up*.

Relics

These, with their New England Atlas map numbers, are *sunup* 73, *nicker* 198, *fairing* (*up*, *off*, *away*) 'clearing' (of the weather) 89, (*kitchen*) *break-down* 410, *belly-cachunk* 576. Ten others were not found at all in Wisconsin: *foddering time* 217, *smurring up* 90, *smurry* 88, *grandsir* and *granther* 381, *fetched up* 'reared' 395, *squeal* 'corn mush served with pork fat' 288, *cleave-stone peach* 267 (but almost no peaches are grown in Wisconsin), *on the great-beams* 102, *hogboist* 110, *curd* (for the cheese) 299.

Sunup

The Handbook says this is a relic in New England, and that *sunrise* is now the common term.

In Wisconsin:

sunup 11: 7*o* (*5*, *10*, *11*, *17*, *24*, *29*, *43*), 4*m* (*4*, *30*, *40*, *48*). Primary to *5*, *29*, *30*; the only term given by *4*, *10*, *24*, *48*. Secondary to the rest. Generally through state.

sunrise 43: 30*o*, 12*m*, 1*y*. Throughout state.

Summary: *Sunup* is not a relic; known to 25 per cent of the informants. None seem to feel it as old-fashioned, and there is no proof that it is declining. *Sunrise*, however, is clearly the general term.

Nicker

The Handbook: A relic in New England. Terms found there were *whinny* (*whinner*, *whinnow*, *whinter*), *whimper* (*whimmer*), *whicker* (*whinker*), *nicker*, *snicker*, *neigh* (*nigh*).

In Wisconsin:

nicker 3: *o* (*10*, *11*, *19*). *11* says this is the oldest term and was once the most common; *10*, *19*, on hearing me mention the word, said they had heard it.

whinny 18: 10*o*, 7*m*, 1*y*. Generally through state.

whinner 26: 21*o*, 5*m*. Throughout state.

whinnow 1: *o* (*35*).

whinter 1: *o* (*1*). Says this was used before *whinny* came in.

whimmer 1: *m* (*42*).

neigh 11: 6*o*, (*10*, *17*, *19*, *24*, *31*, *49*), 5*m* (*2*, *14*, *30*, *45*, *46*).

nigh 4: 1*o* (*27*), 3*m* (*2*, *14*, *16*).

holler 2: 1*o* (*22*), 1*m* (*42*). To the latter, this is a cry of distress.

beller 1: *o* (*20*); says he is a 'specialist' with horses. (But most informants use this of cattle).

squeal 1: *o* (*35*).

Summary: *Nicker* is (and probably has been) hardly known at all in Wisconsin.[10] The most common term is *whinner*, though *whinny* is also widely known, especially among informants of the middle generation and the better educated; *neigh* (and *nigh*) also have some currency.

Fairing (*up*, *off*, *away*)

In Wisconsin:

fairing up 1: *o* (*24*). Used in conversation, though she had answered *breaking* to my question earlier.

clearing 4: 1*o* (*11*), 3*m* (*4*, *14*, *40*).

clearing up 37: 24*o*, 12*m*, 1*y*.

clearing off 5: *o* (*3*, *6*, *21*, *27*, *37*).

clearing away 1: *o* (*12*).

breaking 4: 3*o* (*24*, *47*, *49*), 1*m* (*45*). To *47*, the only term. This, with the next two forms, is scattered except southeast and central south.

breaking up 3: 2*o* (*9*, *41*), 1*m* (*4*). The only term to *9*, *41*.

breaking away 2: 1*o* (*28*), 1*m* (*44*). The only term to *28*.

raising 1: *o* (*25*). The only term.

Summary: *Fairing up* is decidedly a relic. *Clearing*, usually with *up*, is almost universal. *Breaking*, with and without an adverb, has a measure of local usage.

[10] But other work in the Great Lakes and Ohio River Valley region has shown *nicker* to be the most widely used term in Indiana and the adjoining southwest corner of Michigan.

(*Kitchen*) *break-down*

The Handbook: This means a kitchen dance 'in New Hampshire and Maine'.
In Wisconsin:
break-down 1: *o* (*37*).
kitchen sweat 1: *m* (*44*). Said with laughter.
shake-down 2: *o* (*9*, *49*). *49* says it was a lumberman's term.
hoe-down 2: *o* (*1*, *43*).
shindig 19: 13*o*, 6*m*. Generally through state. Often jocular, never primary.
fling 1: *o* (*39*).
Summary: All terms listed are relics except *shindig*. *Dance* is primary to all informants. Kitchen dancing has almost disappeared, and the terms with it.

Belly-cachunk

The Handbook says, 'Only in 32 New London'.
In Wisconsin this form was not found, but many similar ones with the same meaning, 'flat on one's belly (in coasting)':
belly-go-flop 1: *o* (*47*). Informant's wife said *belly-caflop*, but he 'corrected' her.
belly-flop 14: 6*o*, 8*m*. *6*, *17* consider this new. (*21*, *22*, *43* know no term at all, but their children, middle-aged, use this.)
belly-bump 5: 3*o* (*11*, *27*, *41*), 2*m* (*30*, *48*). Scattered, but not north or east.
belly-bumper 4: *o* (*9*, *10*, *12*, *29*). Southwest and west.
belly-gut 8: 6*o* (*7*, *15*, *19*, *35*, *37*, *49*), 2*m* (*42*, *45*). North, east, and south-central.
belly-bare 1: *o* (*23*).
belly-down 1: *o* (*34*).
Summary: *Belly-cachunk* is unknown; and the internal syllable *-ca-* almost so. *Belly-flop* is fairly widely known in the north, east, and central parts of state, while *belly-bump*(*er*) is mostly south, south-central, and west—a fairly clear geographic cleavage. *Belly-flop* seems to be a recent introduction working its way westward.

Conclusions

Of the twelve words given as innovations in New England, only three have about the same status in Wisconsin: *earthworm* (though it shows no sign of 'encroaching'), *seesaw*, and *griddle cake* (though this seems stable, not clearly increasing). *Gutter* seems to be a relic. *Funnel*, *cottage cheese*, *porch*, *pantry*, (*clothes*) *closet*, *warmed over* have passed the innovation stage; they are fully established as the most current terms. *At home*, too, is so widely used that 'innovation' hardly fits; but it is probably still increasing. *Near horse* is also in wide use, but shows no signs of increasing and may even be decreasing.

Concomitantly, *tunnel*, *piazza*, *buttery*, *clothes press*, *fritter*, *Dutch cheese*, *sour-milk cheese* have become relics in Wisconsin, though some were once very widely used. *Het* (*over*) is a relic in Wisconsin, as in New England. *Teeter*(*-totter*), *eave*(*s*)*-trough*, *nigh horse*, (*to*) *home*, *pancake* are in vigorous use, the most current terms in their respective groups.

A great many alternate terms also exist, some of which do not appear to be of New England ancestry, e.g. *raintroth, clapjacks, rehet.* The early New York influence, seen in the once widespread use of *stoop* and *Dutch cheese*, seems now subordinated.

Of the fifteen New England relics, only four, *sunup, nicker, fairing up, (kitchen) breakdown* were found at all. The last three are relics in Wisconsin also; *sunup*, however, is not: it is in considerable use, and seemingly not thought of as old-fashioned. Generally speaking, then, what are relics in New England have become relics—or more often have disappeared entirely—in Wisconsin; but what are still innovations in New England are usually better established—half of them fully established—in Wisconsin. Some New England words are less current than alternates seemingly from other sources.

The foreign-derived population has apparently adopted the current local American lexical pattern with insignificant variations. Words that are relics, or little used in the state at large, are either unknown to them (e.g. *tunnel*) or else taken to be foreign—often of the language of their own origin (e.g. *buttery*)—and from the past. Their own words have not generally entered the local American vocabulary. They have had a sort of negative influence by adopting the most current terms, and (lacking an English-speaking home environment) by promoting the decay of many less current, older, or domestic words by remaining unaware of them.

Only one variation seemed to be clearly geographic: that between *belly-flop* and *belly-bump(er)*. Lexically, so far as the other terms go, the state would seem in general homogeneous.

If there is any direction of change, it seems to be from east to west. The usual forces of language change are at work: the influence of the cities and commercialism (cf. *cottage cheese*), altered ways of life (cf. *kitchen breakdown*), school-set patterns (cf. *funnel*). To these forces Wisconsin seems to yield less slowly than New England.

MISCELLANEA

A POPULAR ETYMOLOGY IN MUSKOGEE

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In the course of determining dialectal and other differences in the speech of the Creek Indians of Oklahoma[1] I have come upon an interesting set of words whose development from the original to the most divergent term involves changes occasioned by popular etymology as well as a number of phonomechanical[1a] changes. This is a set of words for a small native cactus known as 'prickly pear' (Opuntia humifusa, Raf.).[2] I have recorded six different terms for this plant: *hoktalhácko*, *talhácko*, *tanɬácko*, *talɬákko*, *tanɬákko*, and *kanɬákko*.[3] Any given speaker will use only one of these, though in rare cases he may be aware of the fact that certain other speakers employ a different term. The evolution of these terms, so far as I have been able to trace it, is as follows:

(1) *hoktalhácko*, the original term, means literally 'old lady's ear' < *hoktálwa* 'old lady' + *-hácko* 'ear'. (Whenever the suffix *-wa* is preceded by a consonant, as in *hoktálwa*, it is dropped if followed by an element beginning with a consonant.)

(2) *talhácko* is derived from *hoktalhácko* by dropping the initial syllable *hok-*. Similar instances of the dropping of an initial syllable are to be found in *tottolô·si* ~ *'tolô·si* 'chicken';[4] *issitá·pho* ~ *'sitá·pho* 'cabbage'; *catokná·wa* ~ *tokná·wa* 'money'. This type of change is probably related to the process of aphesis, which is exceedingly common in Muskogee, e.g. *imaleykitá* ~ *'maleykitá* 'his clan'; *islá·fka* ~ *slá·fka* 'knife'; *apalhámki* ~ *palhámki* 'on the other side'; *opánka* ~ *pánka* 'a dance'.

(3) In making the transition from *talhácko* to *tanɬácko* it is necessary to set up an intermediary form **talɬácko* which is derived from *talhácko* by assimilating the *h* to the preceding *l*, giving *ɬ*. The term *tanɬácko*, then, is derived from

[1] This work was done under a grant from the Penrose Fund of the American Philosophical Society in 1938–9.

[1a] [That is, morphophonemic. See Trager's discussion of this term in his review of the author's book on Tunica grammar, below.—BB]

[2] Caroline Dorman, Wild Flowers of Louisiana 79 (New York, 1934).

[3] For an explanation of the orthography employed in writing Muskogee words, see my article, Ablaut and its Function in Muskogee, LANG. 16.141–50 (1940).

[4] The initial symbol in *'tolô·si* is an apostrophe. According to a perfectly mechanical rule all unaccented word-initial light syllables (open syllables containing a short vowel) are low in pitch while all other types of unaccented word-initial syllables are high. On the other hand, words which have lost their initial syllables have the high pitch on a secondarily initial unaccented light syllable since this is the pitch the syllable would have if the original initial syllable were preserved; this phenomenon is indicated by the use of an apostrophe. In the case of words like *tokná·wa* ~ *catokná·wa* 'money', however, no apostrophe is used because unaccented word-initial heavy syllables (closed syllables and syllables containing long vowels) are invariably high in pitch. Unless the word begins in a light syllable, one cannot determine whether an initial syllable has been lost.

**tallácko* by a dissimilation which consists in substituting *n* for *l* before *l*.[5] Compare *panłámki* 'on the other side' (used by some speakers) < **pallámki* < *palhámki* ~ *apalhámki* (used by other speakers).

(4) The intermediary form **tallácko* is also necessary in making the transition from *talhácko* to *tallákko*. It is at this point that we first observe the operation of popular etymology. By the time that *hoktalhácko* had become **tallácko* the word no longer conveyed the meaning 'old lady's ear'. But since the word was evidently vaguely felt as being composed of two elements **tal-* and **-łácko*, the second of these was changed to *-łákko* 'big' in an attempt to convert the word into one which would contain at least one meaningful element. This change was undoubtedly helped along by a tendency toward gemination (cf. *ikpocí* ~ *ippocí* 'his son') which is common in all of the Muskogean languages. The change was also facilitated on the semantic level by virtue of the fact that *-łákko* is widely used in forming augmentative derivatives, e.g. *no·ckałákko* 'shawl' (< *nó·cka* 'scarf' + *-łákko*), *acokłanłákko* 'tarantula' (< *acokłánwa* 'spider' + *-łákko*), *hayołákko* 'August' (< *háyo* 'harvest' + *-łákko*).

(5) The term *tanłákko* is derived from *tallákko* by the same type of dissimilation that was described in §3.

(6) The term *kanłákko* is derived from *tanłákko* by the operation of another popular etymology. The element *tan-* conveys no meaning and has been changed by some speakers to *kan-*, the combining form of *i·kaná* 'land, ground', as in *kanhálwi* 'mountain' (< *kan-* + *hálwi* 'high'). This particular popular etymology was probably suggested by the fact that the prickly pear is a low, creeping cactus which appears to be resting on the ground. But note that the combination *kan-* + *-łákko* means literally 'big ground', an interpretation which is utterly inappropriate in itself and which may be understood only against the background of the word's gradual development from *hoktalhácko* through a series of intermediary forms.

As far as I have been able to discover, the original term *hoktalhácko* is no longer used by any of the speakers in the Creek Nation proper, though it is remembered by one eighty-year-old man as an archaic term. On the other hand, it is still in common use in an isolated settlement of Creeks living in the southwestern part of the Cherokee Nation. Fortunately this was the first term I recorded; otherwise it might have proved impossible to trace the connection between the remaining five terms. In the Creek Nation proper, the most commonly used terms are *tallákko* and its dissimilated variant *tanłákko*. The terms *talhácko* and *tanłácko* appear to be rare; two speakers using other terms have testified that some people employ the former while I myself know of one speaker who employs the latter. The term *kanłákko*, the most aberrant of all, was recorded in the Seminole Nation, but I have not interviewed enough Seminole speakers to determine whether its use among them is general or not.

[5] The double consonant cluster *l* + *l* is exceedingly rare in Muskogee. An examination of several hundred words has revealed only one instance, namely *tallákko*, our fourth term for 'prickly pear'. This fact has probably served as a strong inducement in favor of the dissimilation of *l* to *n* in the words *tanłácko* and *tanłákko*.

WORD PLAY IN WINNEBAGO

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Winnebago has several opportunities for word play.[1] A pun may depend on the use of a prefix or suffix homonymous with one that has a completely different meaning (example 1), or on the deliberate misinterpretation of an affix with a generalized meaning or a set of different applications depending on the context (ex. 2), or on the ambiguity of a stem or stem-word with more than one possible and consistent meaning (ex. 3). Other jokes involve a slight change in a monosyllabic stem (ex. 4). Still others, of a type that is hardly likely to occur often, depend on the translation of a long unanalyzable word as if it consisted of a series of monosyllabic stems (ex. 5).

Dr. Paul Radin points out that elision of parts of words in rapid speech, which is characteristic of certain Winnebago constructions, may be a device employed in two of the jokes that were told to me (exx. 3, 4). An unanalyzable or compound word[2] may be homonymous with an expression produced by eliding or running together two separate words.

EXAMPLE 1. Two old ladies met and one asked the other how her corn was doing. The latter replied, *waną· nįgijážiregąją té·ži hįgisągiré·ną*[3] 'Yours are[4] still soft, but mine are getting hard', or 'They smack you, but they lick me'. My informant used these verbs in his translation; questioning revealed that by 'smack' he meant 'hit gently' and by 'lick' he meant 'strike hard, give a stunning blow'. The humor lies in the image of the corn striking the old ladies.[5]

The first word in the Winnebago sentence is an interjection used by women to express dismay. The verb stems are *jaš* and *sak*. *jaš*, reduplicated in this word, may be used without instrumental prefixes, in which case it means 'soft, tender'. With instrumentals, it has the active meaning 'to bring two surfaces together gently', and the type of force applied is defined by the prefix. *sak*, used alone, means 'hard, coarse, ripe'. An instrumental prefix makes it 'to stun, to kill,

[1] The informant for this material was Sam Blow Snake, with whom I worked in 1938–9 on the problem of accent in Winnebago. His English was not perfect, but he always managed to get the main point of the joke across. He was 68 years old, and an ardent member of the Peyote religion. This may have influenced the type of humor which he would be inclined to repeat, so that this material is presented as illustrating the possibilities in the language for certain types of humor, not as a representative sample of Winnebago jokes.

Dr. Paul Radin, an authority on Winnebago language and culture, read the first draft of this paper and made several comments which I am incorporating. He agreed with Blow Snake's translations, but made additions to the etymologies.

[2] The word in Winnebago can be defined by the criterion of 'minimum free form'. Words are often run together in normal speech, but a slow, deliberate pronunciation separates them, and restores any sounds which have been omitted or changed.

[3] Some of the symbols used in the phonetic transcription may require explanation. Consonants are roughly the same as those of English; *j* and *c* represent respectively the affricates in *judge* and *church*; *š* is pronounced as in *she*, *ž* as in *azure*; *t* is a voiceless fortis sound, *r* is a single tap of the tongue tip at the teeth ridge. A hook below the letter indicates nasalization.

[4] The expression is in the plural, probably because it is the ears of corn that are referred to.

[5] I am convinced, from Blow Snake's general behavior and the way he told me these jokes, that he saw no obscenity in any of them.

to "lick" '.[6] The prefixes *hį-* and *nį-* are the objective pronouns 'me' and 'you singular' respectively.

The homonymous prefixes about which the joke turns are both *gi-*. As understood in the first translation, *gi-* is 'for, in behalf of, in reference to', and the pronouns are indirect objects of the neutral verbs. The second interpretation takes *gi-* to be the instrumental prefix 'by striking', and the pronouns as objects of active verbs.

The suffixes in this sentence are *-(h)ire* 'they', which supplies the subject of both verbs in either meaning, and *-gają* 'but'. *tẽ·ži* is a conjunction meaning 'but, on the other hand'; *-ną* shows that the statement is made on the basis of the speaker's own experience.

EXAMPLE 2. A speaker at a Peyote meeting had occasion to use the expression *ké raženąpį·nį* 'words are insufficient (to describe some wonderful event)' or 'one cannot finish speaking (because there is always more that might be said)'. The instrumental prefix *ra-* 'by the mouth' may mean 'by speaking, by chewing, by eating, etc.' as the context suggests. A member of the audience, who was an enemy of the speaker and had once in a fight bitten his nose, shouted the identical sentence back. This time, as everyone present understood, it meant 'one cannot finish biting'.[7]

The other elements in this sentence are *hą·ké* 'not', abbreviated to *ké*; *že·nį* 'be exhausted (of the supply of something)'; *pį·* 'be able'.[8]

EXAMPLE 3. Mrs. Blow Snake was doing some cleaning, in the course of which she gave instructions several times to put the kitten in its box here or there out of her way. She said, *ʔé·gi kąnągré* . . . *ʔé·ja kąnągré* 'put it here . . . put it there'. After a while her nephew said, 'The kitten is always getting married.'

kąnąk means either 'put something solid or compact' or 'marry, take a wife'. Mrs. Blow Snake was using the imperative suffix *-re*. What her nephew pretended to understand, according to my informant, was the suffixed auxiliary verb *re* 'become, keep on, continue to', with the second meaning of the main verb. According to Dr. Radin, the correct etymology is *kąnąk* 'be married' plus *heré* 'be', which is perfectly consistent and may be what is really involved here. This would then be an example of the use of elision in punning.

[6] Dr. Radin believes that *tẽ·ži* means 'hard', and *gisák* simply 'to strike', but since his data are not readily accessible, and there is no informant available at present, I give the translation as it was given me.

[7] Repeating word for word a remark that has just been made is a device for sarcasm. Ordinarily there is no pun involved, and the purpose is ridicule but not, as far as I know, the amusement of bystanders.

[8] Dr. Radin does not recognize the stem *že·nį'* and thinks the play may be on a stem *raš* 'finish, do with the mouth'. *-nį* would then be the suffix defined in example 1. I have found two stems that seem to be related to the instrumental prefix *ra-* 'by the mouth', namely *rá·š* 'name' (a noun) and *rá·c* 'call by name', but neither fits into this sentence. In addition, two phonetic facts contradict the suggestion that the stem in this expression is monosyllabic. The *e* in *že* must be accounted for, and the position of stress on the *nį* shows that it is not the suffix *-nį*, which characteristically does not carry stress. Dr. Radin considers *pį·'* 'be good' a stem distinct from *pį·'* 'be able', and suggests quite plausibly that there may be a pun on these stems here.

EXAMPLE 4. A man who had been away from the tribe for some time, and was not sure of his Winnebago, was nevertheless prevailed upon to speak at a Peyote meeting. Intending to say *ca·wákere* 'shield' in the sentence 'The Lord is my shield', he said *ce·wákere* 'buffalo dung'.

ca·wákere is difficult to analyze.[9] Blow Snake thought it contained *cá·* 'deer', *wa-* 'something', *keré* 'put a long thing, put upright', but was not certain. *ce·wákere* is a compound of *cé·* 'buffalo' and *wakeré* 'dung'. The latter seems to be an idiomatic use of 'put something'.

EXAMPLE 5. Blow Snake has a favorite joke which he tells to speakers of English. The Winnebago word for 'son-in-law' is *watohócira*, which I cannot analyze, and for which native speakers have no explanation. There was one old man who did not know the regular English translation of the word, and interpreted the Winnebago syllable by syllable as if each was an independent stem: *wá·* 'snow', *tó·* 'potato', *hó·* 'fish', *cí·* 'house, to dwell'. The result then is 'snow-potato-fish-house', which Blow Snake recites very quickly, in order to amuse and mystify his listeners. (The last syllable, *-ra*, is apparently identified with the suffix for the definite article 'the', and ignored.)

[9] Dr. Radin does not know this word, but suggests that one might look for elision of a stem such as *ca·wák* with *heré* 'be'. Something like this may be the case, but I hardly think so, in view of the fact that a final *k* elided with *h* ordinarily gives rise to *g*.

REVIEWS

GRUNDZÜGE DER PHONOLOGIE. By N. S. TRUBETZKOY. (Travaux du Cercle Linguistique de Prague, No. 7.) Pp. 271. Prague, 1939.

In this unfinished study, his last work, Trubetzkoy presents a final version of his phonological theories and applies them to the phonemic systems of a large number of languages. The book discusses the relation of phonology to other studies (5–30), the nature of phonemes (30–41), how to determine the phonemes of a language (41–59), relations between phonemes in general analysis (59–80) and in particular languages (80–206), neutralization (206–18), phonemic combinations (clusters, 218–30), phonological statistics (230–41), and boundary-markers (junctures, 241–61).

This volume shows, even more than did his shorter works, the breadth of Trubetzkoy's knowledge and the intricacy and incisiveness and cerebral character of his scientific analysis. However, precisely because this is the last statement of his theoretical work, it is desirable to criticize here some features of the Prague Circle's terminology. The point at issue is the Prague Circle's occasionally mystical use of philosophical terms. Now, it is not necessary for us to agree on our idea of the nature of a phoneme: whether we are to understand it as a class of sounds (each sound being itself a slice out of a continuum of sound), or regard it as some new entity containing a 'characteristic' sound plus an on-glide and an off-glide. For linguistic work it suffices to know how to recognize the phonemes of a language. But Trubetzkoy offers a specific picture of the phoneme as a 'functional' sound: 'The phonologist considers in the sound only that which fills a specific function in the language system' (14). And having established such units of function, he speaks of language structure, in contrast to speech, as 'something general and constant' (5). Such talk may be considered a matter of taste. It makes no difference what picture each linguistic worker has of a phoneme, so long as each performs the same operations upon it.

The Prague Circle terminology, however, has two dangers: First, it gives the impression that there are two objects of possible investigation, the Sprechakt (speech) and the Sprachgebilde (language structure), whereas the latter is merely the scientific arrangement of the former. Second, talking about function, system, and the like, without defining them in terms of operations and relations, fools even the linguistic worker. For by satisfying him with undefined psychological terms it prevents him from continuing his analysis. Thus Trubetzkoy says that each word is, in the language structure, a Gestalt, and that it therefore 'always contains something more than the sum of its parts (i.e. of the phonemes), namely a unity (Ganzheitsgrundsatz) which holds the sequence of phonemes together and gives the word its individuality' (35). Had he not been satisfied with such words, he would have been forced to seek for the physical events which enable us to consider the word as a unity and not merely a sequence of phonemes. And he would undoubtedly have realized that this physical event is usually the 'zero juncture' (see below) defined as the juncture between phonemes of one morpheme (or the like) in contrast to other junctures.

Had he recognized this he could not have written his next sentence: 'In contrast to the individual phonemes, this word-unity cannot be localized in the body of the word.'

In his introductory material Trubetzkoy gives a general approach to phonology. On pp. 17–8 he follows Bühler's division of the act of speech into three 'aspects': features of sound characteristic of the speaker, features constituting the appeal to the hearer, features referring to the content of discourse. He indicates that phonology can build only upon the third of these divisions. On p. 29 he distinguishes three phonological functions: 'distinctive or meaning-distinguishing' (phonemes proper), 'culminative or crest-making' (stress, etc.); 'boundary-marking' (junctures).

The definition of the phoneme given here is typical for the Prague Circle. The instructions on how to recognize the phonemes of a language closely follow, with some improvements, Trubetzkoy's important pamphlet Anleitung zu Phonologischen Beschreibungen (1935).

This review will discuss the three chief contributions of the present volume: 1. Trubetzkoy's method of phonemic patterning; 2. neutralization; 3. junctures.

1. The main point at issue is Trubetzkoy's method of phonemic patterning. Looking at his whole theoretical work, we can find in it three steps: first, the recognition that phonemes are not absolute but relative, that what is relevant in phonemics is only the contrast between one group of sounds and another; second, the selection of a particular contrast-criterion in terms of which to compare the phonemes; third, studying the relations between the contrasts and working out a pattern which describes these relations.

The first step is basic to phonemics, and Trubetzkoy and the Prague Circle performed a great service in clarifying and stressing it. Trubetzkoy was always keenly aware that phonology, like any science, dealt only with what was relevant to it. And he stressed, perhaps more than anyone else, that no feature or group of sounds was relevant in itself, but only if it contrasted with another to distinguish morphemes. For example, lengthening of vowels is phonologically irrelevant in English, where it is positionally conditioned, but phonologically relevant in several European languages, where its presence or absence yields different morphemes.

The second step will be discussed later.

The third step, charting the relations between the contrasts, is complexly and competently handled, although few of us would accept Trubetzkoy's particular system of charting. Trubetzkoy studies the relations between phonemic contrasts in terms of a rather old-fashioned logic of limited scope. Modern logic and especially modern mathematical methods have developed much more powerful procedures of analysis, although the question whether and in what way they can be applied to linguistic relations cannot be discussed here.

Since many linguistic workers in America may want to have some idea of Trubetzkoy's method, a few of its lines will be indicated here. Phonemes are points in a network of contrasts. Two phonemes which have no features in common (in respect to the criterion chosen; see the second step below) cannot be contrasted. Two phonemes which have in common some feature which no

other phoneme has are in UNIDIMENSIONAL contrast. Two phonemes whose common feature is also common to some other phoneme are in PLURIDIMENSIONAL contrast. The unidimensional contrasts are fewer but more interesting than the other. Pluridimensional contrasts are HOMOGENEOUS if they obtain between phonemes which are endpoints of a chain of unidimensional contrasts; otherwise they are HETEROGENEOUS. Homogeneous pluridimensional contrasts are LINEAR if only one chain can be constructed; otherwise they are NON-LINEAR. Pairs of phonemes having similar contrasts between them may be equated in a PROPORTIONAL formula. Various proportional chains may criss-cross, thus presenting a network pattern. Two phonemes in particularly close and limited contrast form a RELATION-PAIR. The difference between them is a RELATION-MARKER. The two phonemes are considered identical except that one has the marker of their private relation while the other does not; they would be represented not as A : B but as A : (A + a). A closed network of relations among a group of phonemes constitutes a RELATION-BUNDLE.

This is but the skeleton of Trubetzkoy's system, and it seems confusing indeed. It is vaguer and more difficult to keep in mind than would appear necessary. But complexity alone does not suffice to condemn it; any logical or mathematical analysis would seem complicated as long as it is strange. The test of its value should primarily be: What results does it give? In answer we must note that its only results are a patterning of the phonemes (which cannot be checked against anything else) and a correlation with the incidence of neutralization (70–6). Other procedures of studying the relations among phonemic contrasts may produce more important results.

It is in the second step, selection of the contrast-criterion, that Trubetzkoy's work falls wide of the mark. For in order to study the relations between phonemic contrasts one must first have selected what kind of contrast to investigate. Those which Trubetzkoy studies are the phonetic contrasts. He does not say that he is intentionally selecting these rather than any other. He merely uses them as though they were the natural and necessary ones to consider. He sets up certain phonetic criteria: localization and degree of the obstacles to passage of air; 'co-articulation' features such as palatalization; resonance chamber; etc. It is in these terms that he lists phonemic contrasts. E.g. English [t] and [d] contrast unidimensionally in respect to voicing, the other phonologically relevant phonetic features being common to both of them.

But there are other criteria in terms of which one may study the contrasts between phonemes. Chief among these is the positional distribution ('privileges of occurrence' in Bloomfield's Language). It is possible to contrast the positions in which each phoneme of a language may and may not occur, to see which phonemes differ much or little in this respect. Trubetzkoy was quite aware of this. On p. 206 he discusses the importance of considering these distributional contrasts, and in the following section he modifies the patterning of the phonetic contrasts by some results from distributional contrasts.

However, it is pointless to mix phonetic and distributional contrasts. If phonemes which are phonetically similar are also similar in their distribution, that is a result which must be independently proved. For the crux of the matter

is that phonetic and distributional contrasts are methodologically different, and that only distributional contrasts are relevant while phonetic contrasts are irrelevant.

This becomes clear as soon as we consider what is the scientific operation of working out the phonemic pattern. For phonemes are in the first instance determined on the basis of distribution. Two positional variants may be considered one phoneme if they are in complementary distribution; never otherwise. In identical environment (distribution) two sounds are assigned to two phonemes if their difference distinguishes one morpheme from another; in complementary distribution this test cannot be applied. We see therefore that although the range of phonetic similarity of various occurrences of a phoneme is important, it is the criterion of distribution that determines whether a given sound is to be classified in one phoneme or another. And when, having fixed the phonemes, we come to compare them, we can do so only on the basis of the distributional criterion in terms of which they had been defined. As in any classificatory scheme, the distributional analysis is simply the unfolding of the criterion used for the original classification. If it yields a patterned arrangement of the phonemes, that is an interesting result for linguistic structure.

On the other hand, the types and degrees of phonetic contrast (e.g. whether all the consonants come in voiced and unvoiced pairs) have nothing to do with the classification of the phonemes; hence they do not constitute a necessary patterning. This is not to say that phonetic comparisons of the phonemes may not be interesting. It may indeed be desirable to work out patterns of the phonetic relations between phonemes and see how they compare with the distributional pattern. But that would be a new correlation, interesting for diachronic linguistics and for linguistic psychology, e.g. for the question: How do the physical (phonetic) differences within the ranges of phonemes (events to which people conventionally react uniformly) compare with the differences between different phonemes (events to which they react differently)? In synchronic linguistics, it is only the distributional pattern that would show what work each phoneme can do, what operations can be performed upon each, i.e. what its place is in the structure.

Valuable and suggestive as Trubetzkoy's work has always been, the selection of phonetic criteria vitiates the structural value of his phonemic patterns.

2. The two most important contributions of Trubetzkoy's last volume are his detailed (though not complete) discussions of neutralization and junctures. Both of these are fairly new terms in linguistics, representing procedures of analysis which have only recently become explicit.

Two phonemes may be contrasted in some positions but not in others, if in these other positions only one of them can occur. For example, English [b] and [p] are not contrasted after [s], because only one of them can occur after [s]. Neutralization (Aufhebung) is the term for such lack of contrast in specific positions. It is a relation analogous to positional variants and is central in the description of phonemic distribution. This is the only distributional problem

analyzed by Trubetzkoy. Like other European linguists, he discusses whether the phoneme in neutralized position should be regarded as representing one of the neutralized phonemes or both together, and so on. For example, is the second phoneme in English *spin* [p] or [b], or [P] representing both? Trubetzkoy also notes (217–8) that for each language there are certain phonemic environments with maximum phonemic contrasts and others with maximum neutralization.

The value of Trubetzkoy's discussion is limited by the fact that he groups together all neutralizations, both those which would be eliminated in morphophonemic formulae (in cases where the neutralized and contrasted positions of a phoneme occur in two forms of the same morpheme) as well as those which constitute the purely phonemic positional limitations of the phoneme in question (where no morpheme could have it in both neutralized and contrasted positions).

3. In the final section Trubetzkoy discusses boundary-markers (Grenzsignale). He lists various negative markers, phonetic and phonemic forms that can occur only medially in a morpheme or word: e.g. certain clusters in some languages, and positional variants which foreshadow the following phoneme only if it is in the same morpheme or word. He also lists positive markers which, in various languages, betray the presence of a morpheme or word boundary: e.g. positional variants or clusters which occur only at morpheme or word initial or final, clusters which occur only across such boundaries, bound accent, and change of vowel-harmony.

Much of this is included in the analysis of what we call junctures, namely the type of contact between phonemes. In such analysis of a given language the contact between phonemes within a morpheme might be called zero juncture, while contacts across morpheme, word, and other boundaries, if they differ from zero, are given successive names. This method not only organizes all the boundary-markers which Trubetzkoy recognizes, but also reveals certain relations which Trubetzkoy's method would probably miss. For example, morphemes of a given class may combine with certain morphemes without any boundary indication (zero juncture), whereas they undergo morphophonemic alternations when combined with certain other morphemes (e.g. Nootka junctures of stems with suffixes; see Sapir and Swadesh, Nootka Texts, grammatical survey). In Trubetzkoy's system morphophonemic alternations which don't yield non-medial clusters may be overlooked; in a juncture analysis a special juncture must be recognized to account for the alternation.

These remarks suggest that a different approach may yield results beyond those of Trubetzkoy. However, this can in no way detract from the value of Trubetzkoy's vanguard work, since discussion of neutralization and junctures is so recent that no writer can give a complete presentation. Even where his method was unsatisfactory, Trubetzkoy's knowledge and interest and intuition in phonology were so great as to bring out most of the important points.

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EFFICIENCY IN LINGUISTIC CHANGE. By OTTO JESPERSEN. (Det Kgl. Danske Videnskabernes Selskab: Historisk-filologiske Meddelelser 27.4.) Pp. 90. København: Ejnar Munksgaard, 1941.

A new book, even a small one, by one of the greatest living scholars cannot fail to excite our interest. 'This is an old man's aftermath,' the author says of it (85): 'he has returned to ideas that occupied him 50 years ago, and has tried to supplement what he said then and on later occasions. The whole is thus a series of variations on an old theme.' It is in fact characteristic of Jespersen's career that he seems never to have felt it necessary to change his fundamental point of view; each of his many books and essays has been able to build solidly on all its predecessors, and 47 years after the appearance of his Progress in Language (London, 1894) he can reaffirm without any essential change and indeed without any essential addition the principle which that work set out to prove. 'Linguistic change,' he says now (85), 'should be measured by the standard of efficiency judged chiefly according to the expenditure of energy, mental and physical, both on the part of the speaker and of the recipient.' And in another passage (30): 'The fundamental postulate on which my whole theory of language is based is this: speaking, even speaking one's mother tongue, is a kind of work which requires mental and physical exertion; hearing, i.e. understanding what is uttered, is equally something that requires mental and physical exertion. A lessening of this exertion must therefore be considered an advantage to the speaker and hearer respectively.'

Among the 'beneficial changes' here assembled are the pruning of 'superfluous' sounds and syllables by phonetic shortening (23–30); the gain in precision through the choice of more distinct forms (17–21), through the elimination of homophones (33–44), and through semantic specialization (61–6, one of the weakest sections); and the development of 'smoother and more euphonious forms' through phonetic assimilation and what is called the aesthetic factor (66–78). All these changes and several others are illustrated by examples from the languages of western Europe—especially from English, which here as elsewhere figures, at least by implication, as the 'best' of national languages. Throughout, the author insists on his guiding principle: 'that a great many changes manifest a purpose, conscious or unconscious, to better existing conditions, and that some changes, though apparently detrimental, may, if summed up, in the long run prove beneficial and make for progress' (9).

Thus, to choose a few examples almost at random, pet names like *Fred* and *Vic*, and familiar shortenings like *Dizz* for *Disraeli* and *Mac* for *Macdonnell* or the like are improvements because 'the beginning [of the name] is sufficient to call forth the idea in the mind of the hearer: a great part of the word is therefore dropped as superfluous' (27). The shortened forms of the Danish numerals *halvtreds* '50', *tres* '60', *halvfjerds* '70', *firs* '80', *halvfems* '90' (for *halvtredsindstyve*, *tresindstyve*, etc.), in spite of their irregularity and the difficulty of learning them, 'are convenient in use and at once understandable without any mistake' (28–9). Lat. **fortia* and *causa* survived in Romance, at the expense of *vīs* and *rēs*, because they were more distinct (19). We speak of *the left-hand corner*, because *the left corner* might be ambiguous (35). The specialization of *deer* from the meaning 'animal' to the meaning 'cervus' is an advantage 'because the

language possesses other words [namely *beast, animal*] for the original meaning' (64). Words like *tip, trip, sip,* and even words like *pittance, miniature* (all containing the sound [ɪ] and all referring to something small, cf. Jespersen's essay Symbolic Value of the Vowel *I*, Linguistica 283–303) are more expressive and hence more efficient than older forms of the same words, because an ordinary phonetic or semantic change may sometimes bring about 'something related to the gratifying of the aesthetic sense' (76–7).

The examples are obviously not new. The facts treated in this book are all familiar, many of them rather well worn and some of them now perhaps entrenched in the special mythology of our science;[1] nor is the treatment any newer. Aside from Jespersen's own earlier works,[2] there are the writings of Bally, Vendryes, and Horn[3] (9–10, 25). It would be pointless, therefore, to criticize the present book as a novel contribution to linguistics or even as a significant addition to the bibliography of a single scholar. We are bound to accept it at the author's valuation as a series of variations on an old theme, and to rejoice that in his eighty-first year he has had the heart and the strength to write it.

Nevertheless, Jespersen's method of interpreting well-known linguistic changes from what he calls 'the point of view of human energetics' (7) raises two grave doubts. One of these concerns the value of the psychological explanations which Jespersen finds—or invents, to put it bluntly—for many of the changes treated in this book. The more general question whether any linguistic phenomenon can be profitably explained in psychological terms, has been asked and answered before, notably by Bloomfield.[4] Since most American linguists probably agree with Bloomfield that a mentalistic approach to linguistic problems can only obscure the issue and 'short-circuit inquiry', this aspect of Jespersen's method will fortunately leave them cold. The point need therefore not be labored; a single example will be enough.

After a section on haplology of the type illustrated by *England* < *Engla-land*, Lat. *nū(trī)trīx*, Fr. *ido(lo)latrie*, in which he quotes with approval Grammont's

[1] Thus we read (45): 'We civilized people are content with one word for "wash", where Cherokee has a number of different words according to what is washed, my head, the head of somebody else, my face, my hands or feet, clothes, dishes, etc. We have one word "cow", the Zulu has no such general word, but special words for "white cow", "red cow", etc. ... Civilization means among other things increase of abstract terms and decrease of superflous special words.'

[2] Those in which a similar point of view prevails include, aside from the early Progress in Language already mentioned, the following: Language: its Nature, Development and Origin (London, 1922 and later); The Philosophy of Grammar (London, 1924 and later); Mankind, Nation and Individual from a Linguistic Point of View (Oslo, 1925); Growth and Structure of the English Language[6] (Leipzig, 1930 and later).

[3] Charles Bally, Le Langage et la Vie (Paris, 1926); J. Vendryes, Le Langage (Paris, 1921; English transl. by Paul Radin, New York, 1925); Wilhelm Horn, Sprachkörper und Sprachfunktion[2] (Leipzig, 1923). Jespersen suggests (25) that a more accurate title for the last book would be Bedeutung und Wortumfang.

[4] For instance in his Language 142–4 and elsewhere (New York, 1933); Linguistic Aspects of Science (Chicago, 1939); On Recent Work in General Linguistics, Modern Philology 25. 211–30 (1927); Language or Ideas?, LANG. 12.89–95 (1936). Cf. also LANG. 7.204–9, 8.220–33, 10.32–40, 12.137–41.

explanation[5] 'that the repetition here would produce the impression of stuttering' (69) Jespersen takes up dissimilation. 'The reason for dissimilations in general,' he writes (70–1), 'must evidently be psychological, but the above-mentioned fear of appearing as a stutterer can only be adduced in rare cases such as possibly the giving up of the abbreviated reduplication in the conjugation.[6] ... The speaker before pronouncing a word, or while pronouncing it, thinks of the whole and has to issue orders to the various organs concerned in the production of the sounds that make it up, and a command may be sent down to one organ a moment too early or too late. ... Hence numerous "slips of the tongue" or lapses .... When the result of such lapses becomes settled as a permanent feature of a language, the reason is no doubt connected with the aesthetic feeling of the nation in question: the new form is felt as more euphonious than the old one, etc.' According to our tastes we may regard this kind of theorizing as ingenious or as merely fanciful. At best it brings us no closer to a solution of such problems as the creation and spread of lapses; and at worst, by presenting us with a tailor-made 'explanation' in terms of what the speaker thinks and the nation feels, it is a red herring across the trail of research. Jespersen himself realizes that his explanation fails to explain, in that there is no observable correlation between the phenomena named as causes and those named as effects; but this failure is in turn referred to a psychological cause: 'the sensibility to cacophony or euphony varies from individual to individual and from nation to nation; hence it is never possible to predict, or to give rules for, *when* a dissimilation will or will not take place in closely similar circumstances.' Having postulated a national aesthetic sense to serve in place of more accessible data, there is nothing to prevent the author from ascribing to his figment whatever attributes are necessary to account for its insufficiency. The passage ends with a statement which cannot be more trenchantly criticized than by quoting it: 'The difference in degree in this kind of sensibility probably explains the fact that dissimilations seem to be much more frequent in the languages of the more artistic Romanic nations than in Gothonic [i.e. Germanic] languages' (71–2).

The other doubt raised by Jespersen's method concerns the 'purely utilitarian view' (66) on which it is based. Is it part of a linguist's business to rate languages or linguistic features on a scale of practical values? No linguist now would use terms like 'decay' or 'corruption' in speaking of linguistic change; is not the use of the word 'progress' open to analogous objections? The amusement with which we regard the pre-scientific philologist's veneration of Greek and Latin

[5] Traité de Phonétique 336 (Paris, 1933): 'dans l'hapaxépie [as Grammont calls this kind of haplology] il n'y a pas leurre psychologique, mais erreur psychologique; les organes éprouvent l'impression que c'est par une sorte de bégaiement qu'ils répéteraient la même syllabe et ils rectifient d'une manière intempestive.'

[6] That is, reduplication of the kind seen in Lat. *cecidī* and Goth. *haihait*. It is here called abbreviated because Jespersen ventures the guess—it can be no more than that and had perhaps better not be ventured—'that the original practice was to give the full word twice to enforce the impression, but later the first form might be abbreviated, as when it was used ... as a subsidiary means of indicating the tense of a verb' (70).

as models of linguistic perfection, and his contempt for the modern languages, should warn us that the contrary view may be not without fallacies of its own. We can describe and codify the facts of language, and we can explain them, within the framework of our science, by historical statements; to judge their usefulness or their beauty is to go outside that framework.

This does not mean, of course, that a linguist is debarred by his profession from having opinions or tastes. In his unofficial capacity as a human being and a user of language, he can no more help making judgments than anyone else. It may be, indeed, that his linguistic training gives his private likes and dislikes a special cogency; and if that is true, then surely no one is better qualified to judge the value of linguistic forms than Jespersen, and no one has a better warrant for publishing his judgments.

It is hardly necessary to add that no criticism of this little book—certainly not the doubts here expressed—can diminish the greatness of Jespersen's name. If his only work had been the Modern English Grammar on Historical Principles, or The Philosophy of Grammar, he would still be among the foremost linguists of our day. He has given us so much that is invaluable, and all his writings have been so lively and so stimulating, that it seems like ungrateful carping to complain because the present work fails to put us still further in his debt. If any excuse were needed for the writing of this book, we should find it in the author's last paragraph (88):

'In a period when pessimism and misanthropy are as it were forced on one because great nations are bent on destroying each other by the most diabolical means without the least feeling of pity for human suffering, and when all hopes of civilized and peaceful international cooperation are crushed for a long time to come—in such a period it has been a kind of consolation to me to find out some bright spots in the history of such languages as I am most familiar with. All is not for the worst in the only world we know and in which we have to live on in spite of everything.'

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TUNICA. By MARY R. HAAS. (Extract from Handbook of American Indian Languages, Vol. 4.) Pp. 143. New York: J. J. Augustin, [1941].

Franz Boas has been collecting and editing contributions to the famous Handbook since 1911, and will, we all hope, continue to do so for many years to come. With Dr. Haas's grammar of Tunica he inaugurates the fourth volume in a manner worthy of the standards previously set.

The Tunica, always a small tribe, are now reduced to a handful living near Marksville, Louisiana (Introduction, 9). Only one of them still remembers the language well, and he has not spoken it since 1915. In recording tales and grammatical material from this man, Dr. Haas has thus performed for us the extremely valuable task of saving yet another language from oblivion. If her book had no other merit, it would for this reason still be an important contribution to American linguistics. But it has merits, so many indeed that it is one of the best and most thorough descriptions of a language—not only of an Ameri-

can language, but of any language—that the reviewer has ever encountered. The present work is an expansion of a Yale doctoral dissertation prepared under the late Edward Sapir, and shows everywhere how magnificently well he knew how to teach his students to be linguists. A volume of texts, on which the grammar is based, is ready, and it is to be hoped that this will soon find a publisher. We may expect that a stem-list, so necessary for comparative work, will accompany the texts or be issued separately, if a complete dictionary is not possible.

Chapter I, Phonology (13–34), has two main sections: 1, Phonetics; 2, Phonomechanics; each is subdivided extensively. Chapter II, Morphology (35–88), includes 3, General Remarks; 4, Inflection; 5, Stem Formation; 6, Borrowed Words and Idioms. Chapter III, Syntax (89–134), consists of 7, The Sentence and its Parts; 8, Classification and Agreement; 9, Preverbs and Postfixes; 10, The Syntactic Uses of the Word-Classes. An Appendix embodying a sample text with grammatical analysis (135–43) completes the book. Sections 1–10 are divided by a system of decimal numbering which shows immediately the subordination of subjects within any larger division; it is a system that might well be more widely used.

Section 1 should really have been called Phonemics, or at least Phonetics and Phonemics. It gives us the finished phonemic analysis, and phonetic details are at a minimum (in a few cases greater explicitness would be welcome). There is no objection to this kind of treatment and it has the merit of avoiding the anticipation that is sometimes necessary when one starts with a presentation of the gross phonetics and then constructs the phonemics from it. But of course the actual procedure is to record all phonetic details first, and then inductively arrive at the phonemic system.

The vowels and consonants are listed under the heading 'unit phonemes', stresses are called 'syllabic phonemes', and the intonations are called 'phrasal phonemes'. The terms 'segmental' and 'prosodic' (or 'suprasegmental') would have been better than 'unit' and 'syllabic' respectively; 'syllabic' especially is misleading, as the word is often used to designate vowels. Tunica has seven vowels: *i, e, ɛ, a, ɔ, o, u*; the consonants are *p, t, č, k, ʔ, b, d, g, f, s, š, h, w, y, m, n, l, r*; *b, d, g, f* are all very rare, and the words they occur in, except *'-gači* 'mother', seem to be all of foreign origin. There are two stress levels, which Dr. Haas calls stressed (') and unstressed. The listing of the phonemes is followed by a passage (§§1.3–6) describing phonetic details and noting distributions and occurrences; the illustration of *u* by the *ue* of English *sue* is not well chosen because of the differences in English pronunciation. A list or table of the consonant clusters (16) would have been useful, though the rules given are complete and the reader can construct one for himself.

The phenomena listed as phrasal phonemes occasion one of the few dissents from Dr. Haas's analysis that the reviewer has to express. There are four phrase-final melodies: high (*á*), low (*à*), rising (*ǎ*), falling (*â*); a fifth, falling-rising (*ã*) occurs only in the word *hõn* 'yes'. These melodies are accompanied by characteristic pitch distributions in the pre-final parts of each phrase, and they are, of course, an extremely important part of the total description. But as

becomes apparent in §7.1 (Phonemic Demarcations), they are conditioned entirely by two factors: the mode (indicative—high, quotative—low, interrogative—rising, imperative—falling) of the predicative word of a main clause, and the position (medial—rising, final—low) in the sentence of other phrase-finals. In other words, these intonations are phonetic characteristics of certain morphological and syntactic types; but they are not phonemic, as they are completely determined by the forms and their position and no contrasts are possible. A case like this shows the advantage of presenting phonetics and phonemics separately. Dr. Haas marks the intonations by symbols over the vowels, while the strong stress is marked by an accent after the vowel; a correct appraisal of the role of the intonations would have simplified the orthography greatly and permitted the use of the acute accent over a vowel to show stress. In her texts, Dr. Haas tells us, she marks phrase-finals not at the end of a sentence with commas, and the sentence-finals with periods; these marks, and a knowledge of the melodies phonetically inherent in certain forms and constructions, would be sufficient. Unless evidence not present in the grammar, showing the melodies to be in contrast, can be adduced, the suggested simplification of writing should be introduced when the texts are published.

The term Phonomechanics is a new one to the reviewer, who prefers the better known morphophonemics; and the explanation of phonomechanical by the word phonological in parentheses (20) is bad: the latter word has already too many meanings. There are two kinds of morphophonemic juncture in Tunica—internal and external sandhi; Dr. Haas has carefully stated all the phenomena that take place (contraction, assimilation, etc.) in the two cases: internal sandhi governs sequences of elements within the word, external those of words within phrases. As stated in §1.1, the phrase is the smallest phonemic group, and the distinction between the two kinds of sandhi is morphophonemic, not phonemic; that means that the word is not a phonemic unit, and within phrases the writing of spaces between words has no phonemic value; Dr. Haas writes spaces, it can be supposed, to facilitate the reader's task, but in that case an explicit statement as to their lack of phonemic value should be made. Much of the morphophonemics of Tunica is automatic, but some cases are limited to specific morphological elements.

The structure of Tunica is 'mildly synthetic' (35). A word consists of a stem and one or more affixes. Stems may be primary or secondary. Affixes are derivational or syntactic. The word-classes, or parts of speech, are independent personal pronouns, nouns, interrogative-indefinite pronouns, quantificatives, postpositions, adjectives, comparatives, adverbs, auxiliary, active, and stative verbs, sentence connectives, and exclamatives and imitatives. These can be grouped together into a few super-classes, as is evident from the morphology and syntax; independent personal pronouns, nouns, and verbs are inflected, the rest uninflected. Syntactically (§10 ff.) nouns, independent personal pronouns, interrogative-indefinite pronouns, and quantificatives (numerals, 'all', 'many', 'a few', etc.) form a class with similar functions which might be called the entitives; postpositions, adjectives, comparatives, adverbs go together as modifiers (Dr. Haas uses this rubric, but does not include postpositions under it);

then there are the three classes of verbs, and finally the exclamatives and imitatives, which might be called extra-syntactic.

Verbs are inflected for semelfactive, habitual, and repetitive aspects, and the conditional mode; as these four categories are all formed by parallel suffixes, they should all be called either aspects or modes, being all the same kind of category in the Tunica scheme of things; using two terms is a needless concession to Indo-European practise; further, certain categories formed by means of what Dr. Haas calls postfixes (116 ff.) are designated as modes, and it is best to keep different terms for different kinds of formations; thus, the semelfactive, habitual, repetitive, and conditional, formed with suffixes differing for person, gender, and number, might be called aspects, while the quotative, interrogative, imperative, future, future subjunctive, and non-fusional conditional, formed by means of postfixes appended to formally complete words, could be called modes. Nouns have the indeterminative and determinative categories. There are three persons, three numbers (singular, dual, plural), and two genders (masculine and feminine). The person-number-gender categories are expressed in the subject and object prefixes and suffixes of verbs and the possessive prefixes of nouns; number and gender are also expressed in the suffixes of the definitive case of the determinative of nouns. The independent pronouns are nearly all based on a stem *-ma* or *-a'ma*; the reviewer would say that there exists a single pronominal base (a sort of noun, but with some special functions) which, with appropriate possessive prefixes, forms the independent pronouns; in a few instances suppletion is used; thus, *ʔi'ma* 'I' is *ʔi-* 1st sg. prefix + *-ma*, that is, something like 'my person'; *ʔu'wi* 'he' is *ʔu-* 3d sg. masc. + *-wi*, suppletive for *-ma*; etc.

Verbs have not only subject prefixes but also object prefixes and subject suffixes; the latter are somewhat similar to pronominal prefixes and pronouns: thus 3d sg. masc. is *-wi*, cf. *ʔu'wi* 'he'.

There is a class of impersonal verbs with the 3d sg. feminine pronominal prefix as subject. This and other evidence shows that the feminine is the contrastively 'unmarked' gender.

Compounding is frequent in Tunica. Active verb stems are linked into copulative constructions (71): 'she sang and danced', 'he hit her and killed her'; in these the last stem only is inflected. Noun-noun and noun-adjective compounds are common.

Postpositions are formed from special stems plus the locative case-suffixes (regularly used with determinative nouns). They are thus really a sort of specialized nouns, used as modifiers. Syntactically they can be distinguished from locative adverbs, but formally the two are identical.

Borrowed words are few, and are chiefly French: *ti'ni* < *dîner*, *ko'ti* < *tricoter* (initial stress because Tunica free stems always have primosyllabic stress in the base form, 27). But loan translations are rather more frequent. The phonemic and morphological structure of Tunica is such that direct borrowing could not have been common, but the long period of bilingualism in Tunica and French necessarily brought about the use of loan translations.

It would be tempting to go into a detailed analysis of the excellent chapter on syntax, but space forbids. It is enough to say that the exposition is so lucid that the reviewer wonders why he has always considered syntax the most forbidding part of linguistics. Especially to be noted are the phonemic details, indicating where phrase separation takes place and where it does not. Most syntactic studies are so biased by the morphology that they analyze everything in terms of morphological words. Dr. Haas has avoided this mistake by seeing that the phrase, being the phonemic unit in Tunica, is also the basic syntactic unit.

Some years ago, basing their opinion on Dr. Haas's material, Morris Swadesh and B. L. Whorf came to the conclusion that Tunica was distantly related to Azteco-Tanoan and thus to the larger Macro-Penutian group of languages. Later, Whorf and Dr. Haas herself thought that Tunica probably belonged somehow with Muskogean. The reviewer finds a very large number of similarities in structure to Tanoan: noun-gender apparent in agreement but explicit only in a special independent form of the noun; inflection of verbs by subject and object prefixes, similar in part to the possessive prefixes of nouns; emphasis on aspect in verbs; use of suffixed elements in final position for tense and mode distinctions; stative verbs having their logical subjects as grammatical objects ('I run' = grammatically '[it] performs a running on me'); and many more, even in matters of detail. A cursory examination of the stems cited does not show any that are self-evidently cognate with anything set up for Azteco-Tanoan; but there is a suggestion of regular though distant correspondences in some dozens of examples. It may be that a comparison of a stem-list with Tanoan and Uto-Aztecan material could decide the matter one way or another.

A few typographical details, none of them the fault of the author, may be noted. Though the publisher is now established in this country, certain printing customs not usual here are still adhered to. Footnotes are separately numbered on each page, instead of continuously in each chapter or section. Meanings are given in double quotes, instead of the single quotes commonly used in linguistic publications. There is no date on the title-page, and the work not being copyrighted, there is none anywhere else; this is a serious omission. Nor is there any indication anywhere of the editorship of Professor Boas; true, when the volume is completed, a title-page for the whole, with such an indication, will be prepared; but so many copies of the separate contributions go out that the omission here is important. The designating of each of the parts of the Handbook as an 'Extract' is in some ways misleading; it might be well to give each one a number and call it a 'part'; the Tunica would be volume 4, part 1, and could be easily referred to as HAIL 4.1.

Unimportant details aside, there is nothing in Dr. Haas's Tunica grammar to detract in any way from its high value both as a description of this language and as a model of how a grammar should be written. We shall look forward with pleasure to seeing in print the results of the Muskogean studies Dr. Haas has been engaged in in recent years.

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SHAWNEE STEMS AND THE JACOB P. DUNN MIAMI DICTIONARY. By C. F. VOEGELIN. (Prehistory Research Series 1.3, 5, 8, 9, 10.) [Pp. 279.] Indianapolis: Indiana Historical Society, 1938–40.

This important work embodies the whole of Jacob P. Dunn's unpublished Miami dictionary, recorded during the years 1905–13, and a generous sampling of contrastive Shawnee stems which Voegelin has assembled from his own manuscript material. Since Miami and Shawnee are related though mutually unintelligible Central Algonquian languages, their combined presentation is not unharmonious. No attempt is made to present a complete list of stems or a dictionary of Shawnee. Instead there is a systematic and extensive semantic study of certain Shawnee stems cognate with or in some way comparable to the Miami terms. Special attention is given to methods and types of compounding of stems and the range of meaning of each.

Comparative Algonquian studies reveal the fact that radical semantic changes are rare. The reviewer would like to call attention to a few of them. Proto-Algonquian **pāhpiwa* 'he laughs' (68) is found in essentially the same phonetic form in most Algonquian languages, although its meaning has undergone a sharp schism. It means 'play' in Miami, Micmac, Penobscot, Massachusetts, and Delaware, but 'laugh' in Ojibwa, Ottawa, Montagnais, and Cree. It can be assumed that 'laugh' was the original signification and that in certain languages the lexeme acquired a group of connotations such as 'laugh, jest, play', from which gradually the signification 'play' emerged to exclude the others. Miami *moswa* 'deer' (362) < PA **mōnswa* 'moose' is an example of semantic change due to the migration of a people. When the Miami wandered beyond the habitat of the moose into what is now southern Michigan and northern Indiana, they applied the old term to a similar animal.

Voegelin has adequately analyzed a very large number of Shawnee compounds into their component elements on both morphological and semantic grounds. He has described what he calls the occurrent, a lexeme or stem that plays a dominating semantic influence, shown in the native's translating it while neglecting to translate the other lexemes in the compound. No satisfactory grammatical or psychological rationale is offered for the occurrent. In the reviewer's opinion its origin is to be found in the psycho-semantic translation-complex, and is not related to methods of compounding. It is not a part of the formal grammatical mold of the language, but belongs to a semantic consideration of the internal syntax of the word. If Shawnee compounds were translated into some unrelated polysynthetic or holophrastic language rather than into a relatively analytic language like English, the occurrent would become indistinct.

The occurrent sometimes tends to be a rather ambiguous entity. For instance PA **mātapiwa* (163) > Penobscot *mátapo*, which is variously translated by informants 'he sits about, he sits moving, he moves as he sits, he stirs in sitting, etc.', has two primary lexemes, both of which may occur as independent words (Penobscot *màčo* 'he starts off, moves away' < PA **māčīwa*; *àpo* 'he sits' < PA **apiwa*), one indicative of motion and the other of a state. Both may occur as first-position stems in most Algonquian languages. In the example given the two lexemes form a seemingly unharmonious compound from a semantic point

of view and combine only in the order given. However, in the native's translation either one or the other may assume a semantic ascendancy according to the translator's feeling concerning the meaning of the whole Algonquian phrase in which the word occurs. Voegelin has put the matter very accurately and concisely when he says (164): 'translations are approximate at best; original style is more or less frankly sacrificed in translation; original style may be recaptured by "working over the texts", that is to say, by indirect methods.' Thus the occurrent becomes merely one index of the translatability without periphrasis of the relatively polysynthetic Algonquian verbal complex into an analytic language and a partial measure of the semantic relationships existing between the thematic elements within the compound.

The chief value of this series lies in the abundance of the Shawnee and Miami lexical material presented for the first time. The somewhat desultory mixture of Shawnee and Miami terms is subject to some disadvantages, although most of these find compensation in the very good index. At times some common Shawnee examples of a given stem are not presented while rare terms frequently make their appearance. Consequently the meanings assigned to lexemes occasionally are not sufficiently generalized, inclusive, or precise; but this is the exception rather than the rule.

Voegelin has presented a very excellent and valuable assembly of Shawnee and Miami lexical material and has offered the first extensive Algonquian semantic study. Considering the scope of the work, detectable errors and deficiencies are very few. One must look forward with anticipation to the publication of his extensive Shawnee texts, a grammar, and a complete dictionary.

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MERION, PENNSYLVANIA

THE PHONETICS OF THE HOTTENTOT LANGUAGE. By D. M. BEACH. Pp. xvi + 329, with 12 plates and a map. Cambridge: W. Heffer & Sons Ltd., 1938.

This book, whose author is an American, represents the application of the methods and techniques of the 'London school' of linguistics to several dialects of a South African language. It has in very great measure the excellences that we expect to find in works issuing from that school.

Hottentot belongs to that group of languages, all in South Africa and contiguous areas, in which the consonants called 'clicks' are found in great abundance and numerous varieties. Only the Bushman dialects present them in more varieties and apparently in statistically greater numbers. The South African Bantu languages have borrowed this class of consonants from either Bushman or Hottentot, or both, and do not show quite the luxuriant variety of these two languages; Sandawe and Hadzapi, of doubtful affiliation, are descriptively in the same case as these Bantu languages. Of all these languages, the best phonetic description that we had prior to the publication of the volume under review was that of Zulu by Doke,[1] another work stemming from the 'London

[1] Clement M. Doke, The Phonetics of the Zulu Language (Bantu Studies, vol. II, special number); Johannesburg: University of the Witwatersrand Press, 1926.

school'. This volume by Beach now presents us with an even more searching study of Hottentot. To say that we could wish that the author had chosen to apply himself to the language in which there are even more clicks, viz. Bushman, would be ungrateful. The tantalizing realization that we shall probably have to wait many years for an equally searching description of Bushman is somewhat tempered by the fact that we can go to Doke (op.cit. 296–9, and Bantu Studies 2.129–65) for an account of his findings on a Bushman dialect known to him through his own field-work.

Beach investigated four groups of Hottentot speakers and found that he had to differentiate two dialects—Nama (including Bergdama) and Korana (including Griqua). Since the Korana dialect is practically extinct, Part III of the book, The Phonetics of Korana (including Griqua), is particularly valuable in that it rescues for further study material that will be unobtainable in no long time, if it has not already vanished. The only specimens of Griqua that could be studied were the memories remaining with a very few old people of a broken Hottentot characterized by Beach as 'probably as imperfect ... as their Afrikaans'. For both the major dialects, Nama and Korana, he gives meticulous descriptions, for the most part in articulatory terms, of all the phonetic material —vowels, consonants both non-click and click, length, stress, and tones, with all the apparatus of kymographic tracings, palatograms (especially valuable for the clicks, where the author gives also a few contrasting ones from Xhosa informants), and intonation charts representing an analysis of phonograph recordings (Part II, The Phonetics of Nama, and Part III, The Phonetics of Korana). For these two sections of the book, as descriptions, we can have nothing but praise. Here is seen the method of the 'London school' at its best, and it is unlikely that in this department the Hottentot language will ever be better described.

Included in these two parts of the book is also a phonemic analysis, i.e. a grouping of the phonetic entities of the description into the segmental phonemes. With one exception to be mentioned below, this is a first step towards a satisfying analysis. Trubetzkoy[2] was able to take the data given for the consonants of Nama and continue to the full extent his type of phonological analysis (characterized by Trager[3] as 'phonétique structurale'). A great deal of material is given on the context of occurrence of phonemes, though it is scattered very widely throughout the book; whether Trager could take this material and find it sufficiently complete so that he could produce from it the attractive type of phonemic analysis which he has given for Polish[4] and for Spanish,[5] is doubtful. But that Trubetzkoy was able to use Beach's description in this way and that Trager would find few deficiencies in it, if any, is high praise for Beach's accomplishment.

Probably the only really unsatisfactory feature of his phonemic analysis and the consequent transcription is that he failed to define the Hottentot word. There is a three-page section (24–6) on words, but it is filled with a discussion

[2] Grundzüge der Phonologie 151–5.
[3] Acta Linguistica 1.182.
[4] Acta Linguistica 1.179–88.
[5] Travaux du Cercle Linguistique de Prague 8.217–22.

of two semi-mystical terms 'conjunctivism' and 'disjunctivism',[6] and there finally emerges a decision 'to use a completely disjunctive system in my phonetic and tonetic transcriptions', in which 'roots', strong and weak (?stems and suffixes), are written separately, though by a compromise with the 'current semi-conjunctive system of writing Hottentot' hyphens have been put 'between roots which in the ordinary writing are connected to form single "words."' This failure to define the Hottentot word vitiates, I think, completely the author's treatment of the tones, and it leaves it doubtful how certain occurrences of the fricatives are to be evaluated (31 and passim).

This failure to analyze fully is unfortunately too common in the 'London school', and the book under review shows in this matter that it shares the faults as well as the excellences of its school. That the author should present us with a morphological and syntactic analysis of the language is hardly to be expected in a work of this title, but he promises us nothing more on the language than is here published. Can a linguistic student in an out-of-the-way field be considered to have done his duty to his discipline when he works for a long period on his chosen language and yet restricts himself to a phonetic and phonemic treatment?

The book contains, besides the two parts already mentioned, Part I, Introduction; Part IV, Comparative Phonology and Spelling of Hottentot; three appendixes, of which the first, Lautfolge by H. Vedder, adds a little to Beach's treatment; and an index. Part IV is of major importance for those interested in the questions of the affiliation of Hottentot and the possible genetic relationship between it and Bushman. Its first chapter gives an impressive treatment of the 'comparative tonology of Nama and Korana' and reconstructs the tones, as well as a set of voiced initial consonant phonemes, of an ur-Hottentot; the second chapter, The Phonetic History of the Hottentot Roots, treats the vexed question of the original form of the roots, in which the author is not so convincing as in his tone reconstructions. The third chapter, The Spelling of Hottentot, is a useful treatment of the practical problem of transcription which faces missionaries and educators in South Africa.

The volume is a beautiful example of the printer's art applied to a difficult technical problem. Here we can only congratulate the author and his publisher.

The book has been treated in this review, on the whole, as a typical specimen of the work of the 'London school' of linguistics. After recognizing the apparent lack of interest of most members of the school in linguistic problems other than the phonetic and phonemic, we must say that in training for accuracy and virtuosity in phonetic description this school led the world. Our 'American school' has gained much from the fact that some of its members have received part of their training in London and are introducing into our linguistic studies the cross-fertilization of different methods in this part of the field. May the 'London school' in happier days arise again from its ashes to contribute its share to the science of a once more humane world!

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University of California

[6] 'The book as a whole is remarkably verbose and at times loaded with irrelevant material, and that not only by the 'stringent' standards of the 'American school.'

ROTUMAN GRAMMAR AND DICTIONARY (comprising ROTUMAN PHONETICS AND GRAMMAR and A ROTUMAN-ENGLISH DICTIONARY). By C. MAXWELL CHURCHWARD. Pp. 363. Sydney: Australasian Medical Publishing Co. (for the Methodist Church of Australasia, Department of Overseas Missions), 1940.

The author of this work was for sixteen years a missionary in Fiji and Rotuma, which in itself would not mean that the book is a good one. But in addition to thorough practical acquaintance with the language the author has had good phonetic schooling, has an analytical mind, and is considerably above average in assiduity. An orderly arrangement of the subject matter, which makes the detailed table of contents virtually an index, is not the least of the book's good features. A considerable amount of comparative material (especially from Tongan, Samoan, Maori, and Fijian) is found throughout the grammar. The grammar is, however, basically descriptive and not comparative, and such comparisons as are found have a mnemonic and pedagogical value, for the author assumes that most of his readers are familiar with one or more of the languages mentioned. There is (for Oceania) a welcome absence of an attempt to fit Rotuman into an Indo-European or Semitic phonetic or grammatical pattern. Observation of linguistic facts has come first, and then formulation of the laws of the language. Mutation, for instance, is a live morphophonemic process which concerns words of two syllables or more. There is an *i-u* mutation, a 'breaking' *a* mutation, and others that lend themselves to naming less readily than to formulation. Even a recent loan-word from English *pepa* 'paper' has as its 'incomplete phase' the regular form *peap*. Of the complete and incomplete phases the author says (164): 'Is this a survival from pre-Melanesian times, an Aboriginal mould to which all subsequent infusions—Melanesian, Polynesian, and now European—have had to conform? Or is it a comparatively recent phenomenon, arising after the principle elements of the language had begun to coalesce? In short, is it the oldest characteristic of the language, or the newest? Who can say? The fact that the incomplete phase is used so little in poetry ... would seem to indicate that it is, comparatively speaking, an innovation. On the other hand, however, the fact that the distinction between the phases is fundamental and seemingly indispensable to the structure and laws of the language, and so ready to seize upon every new word, would seem to indicate that it belongs historically (as well as grammatically) to the foundations.' Our vote would be for the relative newness of the phenomenon. It is fundamental to the language, but no more fundamental than the *s*-plural in English. One of the useful grammatical functions of the distinction between the two phases is the expression of the category of definiteness, the complete phase being definite and the incomplete indefinite; for example *famori 'ea* 'the people say', where *famori* is definite, but *famör 'ea* 'some people say', where *famör* is indefinite.

Rotuman might well serve as an example of the orthographic problems that can infest newly 'alphabetized' peoples as well as those with thousand-year-old traditions. Before Churchward introduced his new spelling in 1928 there were in use two systems with endless variants, called the Methodist and the Roman

Catholic system respectively. The Methodist system (as practised by the natives, not the missionaries) wrote each word in its complete phase, while the Catholic system generally wrote the incomplete phase. In other words, neither system followed Rotuman oral usage. It would be roughly comparable in English to two orthographies, of which one added *s* to all principal words and the other dropped our final *s*: *the boy eat apple* versus *the boys eats apples*. Under the Methodist system both *famori al* 'the people died' and *famör ala* 'the dead people' were written *famori ala* (thus both words in the complete phase in the spelling) while under the Catholic system both were written *famör al* (both incomplete). And neither spelling represented the glottal stop, which is a very frequent consonantal phoneme in Rotuman. The new (and presumably official) spelling has solved this problem too, the inverted comma being used for the glottal stop.

One cannot help wishing that more missionaries were scientifically equipped to write as excellent a work as this one. Even though the language described is a minor one in Oceania, the grammar is recommended to all students of the 'Nesian languages.

DENZEL CARR
HONOLULU, HAWAII

NOTES

We regret to announce the death of our honorary member Nikolaas van Wijk, and of two other members. Benjamin Lee Whorf, a member of the Society since 1929, died on July 26, 1941; Guy S. Lowman Jr., a member since 1932, died on August 4.

The following have been elected to membership in the Linguistic Society:

BANTA, FRANK GRAHAM, M.A., Assistant Instructor in German and Latin, University of Maryland, College Park, Md.

BLOOMFIELD, MORTON W., Ph.D., Assistant Professor of English, University of Akron, Akron, Ohio; *Old and Middle English, general linguistics.*

DAVIS, A. L., A.M., Route 1, Linden, Mich.; *historical English linguistics.*

ERICSON, E. E., Ph.D., Professor of English, University of North Carolina, Chapel Hill, N. C.; *Old and Middle English, American English, Germanic.*

FRANKLIN, M. J., B.A., Fellow in Romance Languages, New York University; 538 Eagle Rock Ave., West Orange, N. J.

FREY, J. WILLIAM, M.A., Assistant Professor of German, Presbyterian College, Clinton, S. C.; *German dialects.*

FRITSCH, CHARLES I., Ph.D., Instructor in Old Testament Department, Princeton Theological Seminary, Princeton, N. J.; *Hebrew and Akkadian.*

GOETCHIUS, EUGENE VAN NESS, B.A., du Pont Junior Fellow in Germanics, University of Virginia, Charlottesville, Va.; *Germanic, Indo-European.*

JAKOBSON, ROMAN, Ph.D., Professor of Slavic Philology, Masaryk University (Brno); 4865 Broadway, New York, N. Y.; *Slavic and Paleosiberian languages, general linguistics.*

JENTE, RICHARD, Ph.D., Professor of German and Head of Department, University of North Carolina, Chapel Hill, N. C.; *Middle High German.*

LANCASTER, A. L., M.A., Instructor in German and French, Virginia Military Institute, Lexington, Va.; *Germanic.*

LAWSON, MRS. DOROTHY DAY, M.A., Instructor in Speech, Brooklyn College, Brooklyn, N. Y.

LOUNSBURY, FLOYD G., M.A., Department of Sociology and Anthropology, University of Wisconsin, Madison, Wis.; *American Indian languages (Oneida), Germanic, Celtic.*

MONROE, JOHN H., A.M., 8 Prince George Ave., Takoma Park, Md.; *classics.*

POWERS, O. S., Ph.D., Instructor in Classical Languages, University of Texas, Austin, Texas; *Greek and Latin, semantics.*

SISTER MARY ROMANA WALCH, B.A., Instructor in German, Mary E. McCahill Institute, Lake City, Minn.

VAN DE WATER, JANICE OAKLEY, A.M., Instructor in Public Speaking, Pembroke College, Brown University, Providence, R. I.

YEO, CEDRIC ARNOLD, Ph.D., Second Lieutenant, Philosophy and Classics, The Citadel, Charleston, S. C.; *semantics.*